SHOUT
SHARE
IT
SECURITY

LIBRARY
OF THE
UNIVERSITY
OF ILLINOIS

580.5
F'B
v. 8, cop. 5

FIELD MUSEUM OF NATURAL HISTORY
FOUNDED BY MARSHALL FIELD, 1893

PUBLICATION 294

BOTANICAL SERIES VOL. VIII, No. 5

STUDIES OF AMERICAN PLANTS—V

BY

PAUL C. STANDLEY

ASSOCIATE CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

B. E. DAHLGREN

ACTING CURATOR, DEPARTMENT OF BOTANY

EDITOR

CHICAGO, U. S. A.

JUNE 25, 1931

PRINTED IN THE UNITED STATES OF AMERICA
BY FIELD MUSEUM PRESS

STUDIES OF AMERICAN PLANTS—V

PAUL C. STANDLEY

Like the preceding papers of this series, the present one is devoted mainly to tropical American Rubiaceae. During the past few months the writer has been fortunate in receiving several thousand specimens in this group, and the results of their partial study appear upon the following pages.

Many of the new species described have been discovered in collections gathered recently in eastern Peru, especially in those made for Field Museum by Llewelyn Williams, and in others brought together by G. Klug. Still further new Peruvian Rubiaceae have been found in the collection made in the same region by Ellsworth P. Killip and A. C. Smith for the Smithsonian Institution, and in older Peruvian series received on loan from Berlin-Dahlem.

The majority of the Rubiaceae described here are the result of examination of more than 4,000 sheets lent by various European herbaria: Royal Botanic Gardens, Kew; Riksmuseets Botaniska Afdelning, Stockholm; Muséum d'Histoire Naturelle, Paris; and the Jardin Botanique Principal, Leningrad. To the curators of these herbaria the writer is deeply indebted for the generous loan of so large an amount of valuable material.

The collections thus received on loan consisted almost wholly of unnamed specimens, but many of the latter were found to be duplicate types or otherwise historical specimens. Others were associable with described species, but many proved to represent species quite new to science. Although the most recent collections have been found richest in new species, it is somewhat surprising to learn that series collected fifty years ago or even earlier contain many plants which never have been given names.

The finest series of Rubiaceae received for study by the writer consisted of about 700 sheets collected chiefly in the State of Paraná, Brazil, by the late P. Dusén, and forwarded on loan from Stockholm through the courtesy of Dr. Gunnar Samuelsson. The specimens were so admirably prepared and mounted that it was more than an ordinary pleasure to study them. They afforded a substantial number of undescribed species, represented by ample and complete material, and also many extensions of range for previously described species.

The loans received from Berlin-Dahlem included much recent material of high interest, especially from Brazil and eastern Peru. The Bolivian specimens already have been cited in *The Rubiaceae of Bolivia*. The specimens lent from Kew, Paris, and Leningrad were particularly valuable because of the many early collections amply represented among them.

Of the plants discussed on the following pages in families other than the Rubiaceae the most interesting and important are those obtained by William A. Schipp in British Honduras. Mr. Schipp's later collections have been no less varied than his former ones, and they have made a large addition to our knowledge of the British Honduran flora. Especially noteworthy are the four new species of *Psidium* or guava which he has discovered in the coastal pinelands.

Study of recent South American material of the Nyctaginaceae has revealed several new species from Peru, and necessitated an unfortunately large number of changes in nomenclature. There is presented, also, a long list of grasses which are additions to the known flora of Peru.

Unless otherwise indicated, the specimens cited on the following pages are in the herbarium of Field Museum.

ADDITIONS TO THE FLORA OF THE LANCETILLA VALLEY, HONDURAS

Too late for record in the recently published *Flora of the Lancetilla Valley* (Field Mus. Bot. 10. 1930), there was received for determination from Professor H. H. Bartlett of the University of Michigan a collection of plants made by Professor A. M. Chickering in the Tela region of Honduras. The collection includes two species, *Bauhinia hondurensis* and *Lysiostyles sericea*, described as new on subsequent pages, and the following species which were not included in the published flora:

Eichhornia azurea (Sw.) Kunth.—Progreso, *Chickering 91*. This common water hyacinth of Central America must be plentiful in the Tela region, and it is difficult to understand how it escaped record there.

Tillandsia juncea LeConte.—Near Lancetilla, *Chickering 122*.

Desmodium axillare (Sw.) DC.—Lancetilla, *Chickering 207*. A prostrate or creeping plant with white flowers.

Ouratea nitida (Sw.) Engl.—Tela, a small tree behind the beach, *Chickering 46*.

Cereus minutiflorus (Britt. & Rose) Vaupel.—An epiphyte on trees near Lancetilla, *Chickering 65*. Flowers white and pink.

Merinthopodium neuranthum (Hemsl.) Donn. Smith.—In deep forest along the river, Lancetilla, *Chickering 194*. The collector states that the plant is a medium-sized tree, but doubtless the statement is the result of incorrect observation, for the plant is ordinarily an epiphytic shrub.

GRAMINEAE

The majority of the grasses mentioned on the following pages are additions to the flora of Peru, which have been noted in the course of preparing an account of the family as it is represented in that country. Recent collectors in Peru have not devoted special attention to the grasses, in fact their collections appear to be rather deficient in these plants, yet their work has added a substantial number of species to the known flora of the country. Most of the specimens here cited have been determined by Dr. A. S. Hitchcock or Mrs. Agnes Chase.

Andropogon leucostachyus HBK. Nov. Gen. & Sp. 1: 187. 1816.

Reported heretofore from Ecuador and Bolivia, but not from Peru. One collection from the last country has been seen by the writer: Peru: In pasture, Chachapoyas, Dept. Amazonas, 2,700 m., January, 1930, *Williams 7540*.

Andropogon saccharoides Sw., var. **parvispiculus** (Hitchc.), comb. nov. *A. saccharoides* subsp. *parvispiculus* Hitchc. Contr. U. S. Nat. Herb. 24: 497. 1927.

Aristida capillacea Lam. Tabl. Encycl. 1: 156. 1791.

Reported previously from Ecuador and Bolivia, and therefore to be expected in Peru. The following specimen represents the species: Peru: Pampalca, between Huanta and Río Apurimac, Dept. Ayacucho, May, 1929, *Killip & Smith 22216*.

Aristida torta (Nees) Kunth, Enum. Pl. 1: 190. 1833. *Chaetaria torta* Nees, Agrost. Bras. 386. 1829.

The species is known to range from Brazil to Costa Rica, but it has not been reported from the central Andes. The following

collection extends the range: Peru: Open dry upland, San Roque, Dept. San Martín, 1,400 m., February, 1930, *Williams 7765.*

Axonopus aureus Beauv. Ess. Agrost. 12. 1812.

New to the flora of Peru: San Roque, fairly abundant, 1,400 m., February, 1930, *Williams 7764.*

Briza monandra (Hack.) Pilger, var. **condensata,** var. nov.—A forma typica differt culmis paullo robustioribus, paniculis angustis condensatis fere spiciformibus 2–5 cm. longis 5–6 mm. latis, ramis primariis valde abbreviatis subadpressis, spiculis subsessilibus.—Peru: In loose clumps on rock ledges, northeastern exposure, Huarón, alt. 4,200 m., June 12, 1922, *Macbride & Featherstone 1154* (Herb. Field Mus. No. 517,665, type).

In the usual form of the species the panicles are loose and open, with slender spreading branches, and the spikelets are on long filiform pedicels.

In Hitchcock's account of the grasses of the central Andes (Contr. U. S. Nat. Herb. 24: 334. 1927), the name *Briza Mandoniana* is used for *Briza monandra,* but, as has been pointed out by Pilger, and as the synonymy cited by Hitchcock clearly shows, the latter name is the proper one for the species.

Cenchrus viridis Spreng. Syst. Veg. 1: 301. 1825.

Although a common and weedy grass of the lowlands of tropical America, this species seems not to be recorded from Peru. The following recent collections establish its occurrence there: Tarapoto, *Williams 5464.* Puerto Arturo, Yurimaguas, *Williams 5005.* Iquitos, common, *Williams 8073.*

Cenchrus pilosus HBK. Nov. Gen. & Sp. 1: 116. *pl. 36.* 1816.

In the central Andes Hitchcock has reported this sandbur only from the coast of Ecuador. It may now be placed on record as a member of the Peruvian flora: Dept. Piura, common along watercourses, *Haught 168, F76.*

Chloris polydactyla (L.) Sw. Prodr. Veg. Ind. Occ. 26. 1788. *Andropogon polydactylon* L. Sp. Pl. ed. 2. 1483. 1763.

A species of wide distribution, but new to the flora of Peru (Department of San Martín): Morales, Tarapoto, December, 1929, *Williams 5650.* Tarapoto, *Williams 5747.*

Echinochloa polystachya (HBK.) Hitchc. Contr. U. S. Nat. Herb. 22: 135. 1920. *Oplismenus polystachyus* HBK. Nov. Gen. & Sp. 1: 107. 1816.

This grass is not listed by Hitchcock in his enumeration of *The Grasses of Ecuador, Peru, and Bolivia,* but the following collection may now be reported from Peru: Iquitos, April 9, 1930, *Llewelyn Williams 8247.* Vernacular name, "gamalote."

Eragrostis acutiflora (HBK.) Nees, Agrost. Bras. 501. 1829. *Poa acutiflora* HBK. Nov. Gen. & Sp. 1: 161. 1816.

The species is not reported from the central Andes by Hitchcock, but the following specimen is at hand from Peru: Tarapoto, common, December, 1929, *Williams 5791.*

Gymnopogon foliosus (Willd.) Nees, Agrost. Bras. 426. 1829. *Chloris foliosa* Willd. Sp. Pl. 4: 924. 1806.

The plant is not reported from any part of the central Andes by Hitchcock. The following collection of recent date is at hand from Peru: Lamas, Dept. San Martín, 840 m., December 19, 1929, *Williams 6461.*

Homolepis aturensis (HBK.) Chase, Proc. Biol. Soc. Washington 24: 146. 1911. *Panicum aturense* HBK. Nov. Gen. & Sp. 1: 103. *pl. 33.* 1816.

This species is not recorded from Peru, but the following recent specimens may now be listed: Peru (Department of Loreto): Caballo-Cocha, *Williams 2205.* Iquitos, *Williams 7964.* Lower Río Nanay, *Williams 311.* Fortaleza, Yurimaguas, *Williams 4210.* Nanay Hills, *Williams 262.* Vernacular name, "toro urcu."

Hymenachne donacifolia (Raddi) Chase, Journ. Washington Acad. Sci. 13: 177. 1923. *Panicum donacifolium* Raddi, Agrost. Bras. 44. 1823.

In the central Andes this aquatic grass has been reported from Ecuador, but it may now be placed on record also from Peru: Manfinfa, on the upper Río Nanay, June, 1929, *Williams 1132.* La Victoria, Dept. Loreto, *Williams 3094.* Santa Rosa, below Yurimaguas, 135 m., *Killip & Smith 28986.*

Lasiacis procerrima (Hack.) Hitchc. Proc. Biol. Soc. Washington 24: 145. 1911. *Panicum procerrimum* Hack. Oesterr. Bot. Zeitschr. 51: 431. 1901.

Hitchcock in his account of the grasses of Central America (Contr. U. S. Nat. Herb. 24: 664. 1930) states that this species ranges from Mexico to Venezuela. The following specimens, therefore, represent a great extension of range: Peru: Tarapoto, Dept. San Martín, in forest, December, 1929, *Williams 6081, 6611.*

Leptochloa virgata (L.) Beauv. Ess. Agrost. 166. 1812. *Cynosurus virgatus* L. Syst. Nat. ed. 10. 2: 87. 1759.

An addition to the flora of Peru (Department of Loreto): La Victoria, *Williams 2892*. Paraíso, Alto Itaya, *Williams 3221*.

Leptochloa scabra Nees, Agrost. Bras. 435. 1829.

This species, also, is not recorded for Peru, but it is represented by the following collection: Department of Loreto: Leticia, September 4, 1929, *Williams 3066*.

Leptochloa filiformis (Lam.) Beauv. Ess. Agrost. 166. 1812. *Festuca filiformis* Lam. Tabl. Encycl. 1: 191. 1791.

This species, likewise, may be recorded from Peru on the basis of recent collections: Department of Loreto: Huallaga, Yurimaguas, at edge of forest or in abandoned land, November, 1929, *Williams 4645, 4646, 4643*. Vernacular name, "nudillo."

Olyra surinamensis Hochst. ex Steud. Syn. Pl. Glum. 1: 36. 1854.

The species has been recorded heretofore only from the Guianas. The following collection, therefore, represents a notable extension of range: Peru: Timbuchi, on the Río Nanay, Dept. Loreto, in water in forest, June, 1929, *Williams 1043*.

Oryza latifolia Desv. Journ. de Bot. Desv. 1: 77. 1813.

Although a common grass in many parts of the tropical American lowlands, where it grows usually in shallow water, this has not been reported from Peru. The following recent collections are available: Peru (Department of Loreto): La Victoria, edge of forest, September, 1929, *Williams 3093*. Río Masana, May, 1929, *Williams 2*. Iquitos, March, 1930, *Williams 8087*. Vernacular name, "gramalote."

This is a native American grass, but it is remarkable how very close it is in all characters to cultivated rice, *Oryza sativa*. The latter is said to be an annual, and *O. latifolia* a perennial. The duration of the plant usually can not be determined from herbarium specimens, and the other characters seem to be decidedly indefinite, so much so that the best authorities upon grasses make evident mistakes in determining herbarium specimens of the two supposed species.

Panicum cyanescens Nees, Agrost. Bras. 220. 1829.

The species is not listed by Hitchcock for the central Andes, but it may now be reported from Peru: San Roque, Dept. San Martín, 1,400 m., January and February, 1930, *Williams 7671, 7435*.

Panicum fasciculatum Sw. Prodr. Veg. Ind. Occ. 22. 1788.

A common weedy grass, widely dispersed in tropical America, but new for Peru: On the Tablazo, north of Pariñas Valley, Dept. Piura, March, 1929, *Oscar Haught F135*.

Panicum megiston Schult. Mant. 2: 248. 1824.

Reported from Ecuador and Bolivia, but not from Peru. The following collections are at hand: Peru (Department of Loreto): Caballo-Cocha, on the Amazon, August, 1929, *Williams 2466*. La Victoria, on the Amazon, in forest, August, 1929, *Williams 2824*.

Panicum quadriglume (Doell) Hitchc. Contr. U. S. Nat. Herb. 24: 460. 1927. *P. cayennense* var. *quadriglume* Doell in Mart. Fl. Bras. 2^2: 220. 1877.

Reported previously from Bolivia, but not known elsewhere in the central Andes. The following collection may be recorded: Peru: Tarapoto, Dept. San Martín, edge of path, 750 m., December, 1929, *Williams 5800*.

Panicum pilosum Sw. Prodr. Veg. Ind. Occ. 22. 1788.

A common weedy grass of tropical America, but not listed heretofore from Peru: Yurimaguas, Dept. Junín, 135 m., Aug.–Sept., 1929, *Killip & Smith 28207*. Palta-Cocha, upper Río Nanay, Dept. Loreto, July, 1929, *Williams 1268*. Lower Río Nanay, May, 1929, *Williams 382*. Timbuchi, Río Nanay, Dept. Loreto, June, 1929, *Williams 861*. San Roque, Dept. San Martín, 1,400 m., *Williams 7287*. Vernacular name, "tarro-urcu."

Panicum pantrichum Hack. Verh. Zool. Bot. Ges. Wien 1915: 72. 1915.

Reported already from Bolivia and Ecuador, this may be recorded now from Peru: Tarapoto, Dept. San Martín, 750 m., December, 1929, *Williams 5877*.

Paspalum minus Fourn. Mex. Pl. 2: 6. 1886.

The species was not listed by Hitchcock from the central Andes, but it has been reported since from Bolivia. It may be recorded also from Peru: Iquitos, Dept. Loreto, 100 m., in waste places, August, 1929, *Killip & Smith 26906*.

Paspalum repens Berg. Act. Helv. Phys. Math. 7: 129. *pl. 7*. 1772.

Recorded from Ecuador, but not elsewhere in the central Andes. The following specimens are from Peru (Department of Loreto): Lower Río Nanay, in water, May, 1929, *Williams 509*. Pebas, July, 1929, *Williams 1856*. Vernacular name, "gramalote."

Paspalum prostratum Scribn. & Merr. U. S. Dept. Agr. Div. Agrost. Bull. 24: 9. 1900.

A Mexican species, recorded from Bolivia. The following collection shows that its range includes Peru: Pampalca, between Huanta and Río Apurimac, Dept. Ayacucho, 3,200 m., open hillside, May, 1929, *Killip & Smith 22215*.

Paspalum microstachyum Presl, Rel. Haenk. 1: 215. 1830.

Listed from Ecuador, but new for the flora of Peru: Huallaga, Yurimaguas, Dept. Loreto, a weed in abandoned land, November, 1929, *Williams 4636*.

Paspalum notatum Flügge, Monogr. Pasp. 106. 1810.

For some reason this species was not listed from Peru, although the following collection was available when Hitchcock's *Grasses of Ecuador, Peru, and Bolivia* was published: Huánuco, 2,100 m., forming tough clumps along ditch, April, 1923, *Macbride 3519*.

Paspalum plicatulum Michx. Fl. Bor. Amer. 1: 45. 1803.

A recently collected addition to the flora of Peru: Aina, between Huanta and Río Apurimac, Dept. Ayacucho, 750–1,000 m., in clearing, *Killip & Smith 22604*.

Pharus latifolius L. Syst. Nat. ed. 10. 2: 1269. 1759.

The species is not listed from Peru, but the following material is representative: Department of Loreto: Puerto Arturo, Yurimaguas, in forest, *Williams 5140*. Mishuyacu, near Iquitos, in forest, *Klug 214*. Vernacular name, "paufil chaqui."

Sporobolus argutus (Nees) Kunth, Enum. Pl. 1: 215. 1833. *Vilfa arguta* Nees, Agrost. Bras. 395. 1829.

Since it had been collected in both Ecuador and Bolivia, this grass was to be expected in Peru, but it was not obtained there until recently: Pariñas Valley, Dept. Piura, April, 1929, *Haught F90*. Near the Amotape Hills, especially around La Búa, December, 1928, *Haught F90*.

Sporobolus purpurascens (Sw.) Hamilt. Prodr. Ind. Occ. 5. 1825. *Agrostis purpurascens* Sw. Prodr. Veg. Ind. Occ. 25. 1788.

Reported in the central Andes from Ecuador, and occurring also in Peru: San Roque, Dept. San Martín, 1,400 m., in pasture, January, 1930, *Williams 7533*.

Trichachne insularis (L.) Nees. Agrost. Bras. 86. 1829. *Andropogon insularis* L. Syst. Nat. ed. 10. 2: 1304. 1759.

One of the common weedy grasses of lowland tropical America, but not recorded from Peru. The following specimen has been obtained recently: Department of San Martín: In pasture, Tarapoto, 750 m., December, 1929, *Williams 5599*.

Digitaria horizontalis Willd. Enum. Pl. 92. 1809.

This, also, is a common tropical weed, but it has not been listed previously from this country: Peru: In clearing, Santa Rosa, Dept. Loreto, 135 m., September, 1929, *Killip & Smith 28867*.

Andropogon bicornis L.—One of the common grasses of Central America, frequenting habitats such as are common in British Honduras, this well-known species is not recorded from that country in Hitchcock's recent account of the grasses of Central America (Contr. U. S. Nat. Herb. 24, pt. 9. 1930). The following collection, therefore, deserves to be placed on record: British Honduras: All Pines, at sea level, common in open places, September, 1930, *W. A. Schipp 654*.

Phragmites communis Trin.—The common reed is not listed for British Honduras by Hitchcock in *The Grasses of Central America*, although naturally so widely distributed a grass would be expected there. The following collection is in the herbarium of Field Museum: Stann Creek, in mangrove swamp, common, December, 1929, *W. A. Schipp 511*.

Stenotaphrum secundatum (Walt.) Kuntze.—This grass, likewise, may be reported as a member of the flora of British Honduras: Stann Creek, open places, December, 1929, *W. A. Schipp 501*.

MORACEAE

Pourouma aspera Trécul.—Although a common tree in many places along the Atlantic coast of Central America, this relative of the Cecropias is not known to reach Mexico. Apparently a northern record for it is established by a recent collection: British Honduras: Maya Mounds, near the Cockscomb Mountains, 150 m., June, 1930, *W. A. Schipp S127;* a tree 12 m. high, in forest, the trunk 25 cm. in diameter; common; fruits black; known locally as "trumpet."

NYCTAGINACEAE

Recent study of the South American plants referred to the genus *Mirabilis* convinces the writer that it is necessary to combine in a single genus the plants that in the United States have been referred to *Mirabilis*, *Oxybaphus*, *Hesperonia*, *Quamoclidion*, and *Allioniella*. If only the species native in the United States are considered, these groups seem to possess characters that separate them satisfactorily. When, however, the South American, and especially the Peruvian species are taken into account, the supposedly distinctive generic characters break down. No one of the characters, such as the number of flowers in the involucre, form of the fruit, or shape of the perianth, seems to be constantly associated with other distinctive characters throughout the range of the group. If the genus *Mirabilis* is divided, the nine species occurring in Peru, in spite of the fact that they evidently are closely related, would fall into four genera, clearly an unreasonable and illogical division.

It is, in a way, unfortunate that the genus *Oxybaphus*, almost always kept distinct by North American botanists, must be merged with *Mirabilis*, typified by the common garden four-o'clock, but if all the species of the group are considered, the only distinguishing character for *Oxybaphus* is the smaller size of the flowers, scarcely a character of generic importance, even if it is quite as significant as leaflet size. Although size of leaflets or of flowers has been used as a generic character in some recent taxonomic papers, it is scarcely to be commended as a criterion of generic relationship!

The following list gives the correct nomenclature for the North American species of *Mirabilis*, the order being that of the *North American Flora* (21: 217–40. 1918).

Mirabilis viscosa Cav. Icon. 1: 13. 1791. *Oxybaphus viscosus* L'Hér. ex Choisy in DC. Prodr. 13²: 430. 1849. *Allionia viscosa* Kuntze, Rev. Gen. 533. 1891.

Mirabilis corymbosa Cav. Icon. 4: 55. 1797. *Allionia corymbosa* Kuntze, Rev. Gen. 533. 1891.

Mirabilis microchlamydea (Standl.), comb. nov. *Allionia microchlamydea* Standl. Contr. U. S. Nat. Herb. 13: 405. 1911.

Mirabilis glabra (Wats.), comb. nov. *Oxybaphus glaber* Wats. Amer. Nat. 7: 301. 1873. *Allionia glabra* Kuntze, Rev. Gen. 533. 1891.

Mirabilis glabra var. **recedens** (Weatherby), comb. nov. *Oxybaphus glaber* var. *recedens* Weatherby, Proc. Amer. Acad. 45: 425. 1910.

Mirabilis exaltata (Standl.), comb. nov. *Allionia exaltata* Standl. Contr. U. S. Nat. Herb. 12: 355. 1909. *Oxybaphus exaltatus* Weatherby, Proc. Amer. Acad. 49: 492. 1913.

Mirabilis Carletoni (Standl.), comb. nov. *Allionia Carletoni* Standl. Contr. U. S. Nat. Herb. 12: 355. 1909. *Oxybaphus Carletoni* Weatherby, Proc. Amer. Acad. 49: 492. 1913.

Mirabilis coccinea (Torr.) B. & H. Gen. Pl. 3: 3. 1880. *Oxybaphus coccineus* Torr. Bot. Mex. Bound. Surv. 169. 1859. *Allionia coccinea* Standl. Contr. U. S. Nat. Herb. 12: 339. 1909.

Mirabilis gausapoides (Standl.), comb. nov. *Allionia gausapoides* Standl. Contr. U. S. Nat. Herb. 13: 406. 1911.

Mirabilis linearis (Pursh) Heimerl, Ann. Cons. Jard. Genève 5: 186. 1901. *Allionia linearis* Pursh, Fl. Amer. Sept. 728. 1814. *Oxybaphus linearis* Robinson, Rhodora 10: 31. 1908.

Mirabilis decipiens (Standl.), comb. nov. *Allionia decipiens* Standl. N. Amer. Fl. 21: 223. 1918.

Mirabilis hirsuta (Pursh) MacM. Metasp. Minn. Vall. 217. 1892. *Allionia hirsuta* Pursh, Fl. Amer. Sept. 728. 1814. *Oxybaphus hirsutus* Sweet, Hort. Brit. 1: 334. 1826.

Mirabilis pauciflora (Buckl.), comb. nov. *Oxybaphus pauciflorus* Buckl. Proc. Acad. Phila. 1862: 7. 1862. *Allionia pauciflora* Standl. N. Amer. Fl. 21: 224. 1918.

Mirabilis albida (Walt.) Heimerl, Ann. Cons. Jard. Genève 5: 182. 1901. *Allionia albida* Walt. Fl. Carol. 84. 1788. *Oxybaphus albidus* Sweet, Hort. Brit. 2: 429. 1827.

Mirabilis lanceolata (Rydb.), comb. nov. *Allionia lanceolata* Rydb. Bull. Torrey Club 29: 691. 1902.

Mirabilis aggregata (Ortega) Cav. Icon. 5: 22. 1799. *Calyxhymenia aggregata* Ortega, Decad. 81. 1798. *Oxybaphus aggregatus* Vahl, Enum. Pl. 2: 41. 1806. *Allionia aggregata* Spreng. Syst. Veg. 1: 384. 1825.

Mirabilis coahuilensis (Standl.), comb. nov. *Allionia coahuilensis* Standl. Contr. U. S. Nat. Herb. 12: 347. 1909. *Oxybaphus coahuilensis* Weatherby, Proc. Amer. Acad. 45: 425. 1910.

Mirabilis pumila (Standl.), comb. nov. *Allionia pumila* Standl. Contr. U. S. Nat. Herb. 12: 345. 1909.

Mirabilis rotundifolia (Greene), comb. nov. *Allionia rotundifolia* Greene, Pl. Baker. 3: 33. 1901.

Mirabilis nyctaginea (Michx.) MacM. Metasp. Minn. Vall. 217. 1892. *Allionia nyctaginea* Michx. Fl. Bor. Amer. 1: 100. 1803. *Oxybaphus nyctagineus* Sweet, Hort. Brit. 1: 334. 1826.

Mirabilis Grayana (Standl.), comb. nov. *Allionia Grayana* Standl. N. Amer. Fl. 21: 227. 1918.

Mirabilis suffruticosa (Standl.), comb. nov. *Allionia suffruticosa* Standl. Contr. U. S. Nat. Herb. 13: 408. 1911.

Mirabilis comata (Small), comb. nov. *Allionia comata* Small, Fl. Southeast. U. S. 407. 1903. *Oxybaphus comatus* Weatherby, Proc. Amer. Acad. 49: 492. 1913.

Mirabilis longipes (Standl.), comb. nov. *Allionia longipes* Standl. N. Amer. Fl. 21: 229. 1918.

Mirabilis ciliata (Standl.), comb. nov. *Allionia ciliata* Standl. Contr. U. S. Nat. Herb. 12: 345. 1909. *Oxybaphus ciliatifolius* Weatherby, Proc. Amer. Acad. 49: 492. 1913.

Mirabilis violacea (L.) Heimerl, Beitr. Syst. Nyctag. 23. 1897. *Allionia violacea* L. Syst. Nat. ed. 10. 890. 1759. *Oxybaphus violaceus* Choisy in DC. Prodr. 13²: 432. 1849.

Mirabilis oxybaphoides Gray in Torr. Bot. Mex. Bound. Surv. 173. 1859. *Quamoclidion oxybaphoides* Gray, Amer. Journ. Sci. II. 15: 320. 1853. *Allioniella oxybaphoides* Rydb. Bull. Torrey Club 29: 687. 1902.

Mirabilis triflora Benth. Pl. Hartw. 23. 1839. *Quamoclidion triflorum* Standl. Contr. U. S. Nat. Herb. 12: 358. 1909.

Mirabilis Greenei Wats. Proc. Amer. Acad. 12: 253. 1876. *Quamoclidion Greenei* Standl. Contr. U. S. Nat. Herb. 12: 358. 1909.

Mirabilis Froebelii (Behr) Greene, Bull. Calif. Acad. 1: 124. 1885. *Oxybaphus Froebelii* Behr, Proc. Calif. Acad. 1: 69. 1855. *Quamoclidion Froebelii* Standl. Contr. U. S. Nat. Herb. 12: 359. 1909.

Mirabilis multiflora (Torr.) Gray in Torr. Bot. Mex. Bound. 173. 1859. *Oxybaphus multiflorus* Torr. Ann. Lyc. N. Y. 2: 237. 1827. *Quamoclidion multiflorum* Torr. ex Gray, Amer. Journ. Sci. II. 15: 321. 1853.

Mirabilis Heimerlii (Standl.) Macbr. Contr. Gray Herb. 56: 24. 1918. *Hesperonia Heimerlii* Standl. Contr. U. S. Nat. Herb. 13: 412. 1911.

Mirabilis oligantha (Standl.), comb. nov. *Hesperonia oligantha* Standl. Contr. U. S. Nat. Herb. 12: 363. 1909.

Mirabilis polyphylla (Standl.), comb. nov. *Hesperonia polyphylla* Standl. Contr. U. S. Nat. Herb. 12: 364. 1909.

Mirabilis tenuiloba Wats. Proc. Amer. Acad. 17: 375. 1882. *Hesperonia tenuiloba* Standl. Contr. U. S. Nat. Herb. 12: 363. 1909.

Mirabilis laevis Benth. Bot. Voy. Sulph. 44. 1844. *Hesperonia laevis* Standl. Contr. U. S. Nat. Herb. 12: 363. 1909.

Mirabilis cedrosensis (Standl.) Jepson, Fl. Calif. 459. 1914. *Hesperonia cedrosensis* Standl. Contr. U. S. Nat. Herb. 12: 362. 1909.

Mirabilis Bigelovii Gray, Proc. Amer. Acad. 21: 413. 1886. *Hesperonia Bigelovii* Standl. N. Amer. Fl. 21: 235. 1918.

Mirabilis californica Gray in Torr. Bot. Mex. Bound. Surv. 173. 1859. *Hesperonia californica* Standl. Contr. U. S. Nat. Herb. 12: 364. 1909.

Mirabilis retrorsa Heller, Muhlenbergia 2: 193. 1906. *Hesperonia retrorsa* Standl. N. Amer. Fl. 21: 236. 1918.

Mirabilis Watsoniana Heimerl, Bot. Jahrb. 11: 84. 1889.

Mirabilis exserta Brandeg. Proc. Calif. Acad. II. 3: 165. 1891.

Mirabilis Pringlei Weatherby, Proc. Amer. Acad. 45: 424. 1910.

Mirabilis Urbani Heimerl, Oesterr. Bot. Zeitschr. 56: 250. 1906.

Mirabilis Jalapa L. Sp. Pl. 177. 1753.

Mirabilis longiflora L. Svensk. Vet. Akad. Handl. 1755: 176. 1755.

Mirabilis Wrightiana Gray ex Britton & Kearney, Trans. N. Y. Acad. Sci. 14: 28. 1894.

The following species of *Allionia*, described since the appearance of the part of the *North American Flora* dealing with the family Nyctaginaceae, also should be transferred to *Mirabilis:*

Mirabilis grandiflora (Standl.), comb. nov. *Allionia grandiflora* Standl. Journ. Washington Acad. Sci. 13: 5. 1923.

Torrubia myrtiflora, sp. nov.—Ramuli crassiusculi fusci glabrati vel sparsissime pilis minutis induti; folia opposita vel ternata chartacea in sicco fusca petiolata, petiolo gracili 12–20 mm. longo glabro; lamina lanceolato-oblonga vel anguste elliptico-oblonga 9–13 cm. longa 3.5–5 cm. lata subabrupte breviterque acuminata, acumine anguste triangulari obtuso, basi acuta vel breviter acuminata et plus minusve obliqua, glabra, supra sublucida, costa venisque obscuris, subtus brunnescens, costa gracili prominente, nervis lateralibus utroque latere 8–10 gracillimis prominulis angulo lato divergentibus subarcuatis vel fere rectis remote a margine obscure conjunctis, nervulis obsoletis; inflorescentia mascula terminalis 8.5–12 cm. longe pedunculata cymoso-paniculata 4–6 cm. longa et 7–10 cm. lata laxe vel dense multiflora basi radiatim ramosa pedunculo ut rami sparse vel subdense ferrugineo-puberulo, floribus dense aggregatis sessilibus vel brevissime pedicellatis, bracteolis ovato-lanceolatis vix 0.5 mm. longis dense tomentulosis; perianthium obconicum 4–4.5 mm. longum basi acutum dense rufo-tomentulosum 2 mm. latum, lobis minutis

late ovatis obtusis vix 0.5 mm. longis; stamina c. 9 longissime exserta periantho plus quam duplo longiora.—Peru: Puerto Arturo, Yurimaguas, Dept. Loreto, edge of forest, alt. about 200 m., November 18, 1929, *Llewelyn Williams 5162* (Herb. Field Mus. No. 614,336, type).

The genus has not been recorded previously from Peru. The plant can not be referred to any of the several species reported from the Amazon Valley. The vernacular name is given as "clavo-caspi."

Torrubia Broadwayana (Heimerl), comb. nov. *Pisonia Broadwayana* Heimerl, Repert. Sp. Nov. 17: 1. 1921.

Torrubia obtusiloba (Huber), comb. nov. *Pisonia obtusiloba* Huber, Bol. Mus. Goeldi 5: 347. 1909.

Torrubia Riedeliana (Fisch.), comb. nov. *Pisonia Riedeliana* Fisch. Vid. Medd. 1890: 162. 1891.

Torrubia Warmingii (Heimerl), comb. nov. *Pisonia Warmingii* Heimerl, Vid. Medd. 1890: 162. 1891.

Bougainvillea pachyphylla Heimerl in herb., sp. nov.—Frutex vel arbor parva erecta vel interdum scandens, ramulis pallidis ochraceis, novellis dense puberulis, spinis numerosis puberulis usque ad 9 mm. longis rectis vel subrecurvis armatis; folia subcoriacea, petiolo gracili 4–11 mm. longo dense puberulo; lamina late ovata vel deltoideo-ovata, interdum late elliptica, 3–6 cm. longa, 2–5 cm. lata, sensim vel abrupte acuta vel acuminata, interdum apicem obtusiusculum versus sensim angustata, supra dense viscido-puberula, subtus dense breviterque viscido-villosula, rare glabrata; inflorescentiae triflorae in axillis laxe cymosae, ramis gracillimis dense tomentellis, pedunculis gracillimis 7–12 mm. longis dense tomentellis; bracteae roseae late elliptico-ovatae vel suborbiculares plerumque 2–2.5 cm. longae et fere aequilatae, basi late rotundatae vel leviter cordatae, apice obtusae vel late rotundatae, utrinque sparse puberulae vel villosulae vel serius glabratae; perianthium 9–11 mm. longum anguste tubulosum dense viscido-hirtulum vel puberulum infra limbum breviter 5-lobum paullo constrictum.—Peru: Dept. Piura, *Raimondi 8703* (type in herb. Berol., photo. in herb. Field Mus.). Frías, Dept. Piura, *Weberbauer 6432* (fragm. from herb. Berol. in herb. Field Mus.). Amotape Hills, Prov. Paita, *Haught F24* (herb. Field Mus.), *24* (U. S. Nat. Herb.).

The material cited represents a plant closely related to *B. peruviana* H. & B., and perhaps not definitely separable from it, but it has been indicated in the herbarium as a distinct species by Dr. Heimerl, and for the present seems worthy of specific rank. *B. peruviana* is distinguished chiefly by the glabrous perianth and much thinner leaves.

Regarding *B. pachyphylla*, which is called "papelillo" locally, Mr. Haught supplies the following information:

Ordinarily a shrub or small tree of upright growth, this plant sometimes is a woody twiner, unless there are two species. These specimens were taken from a climbing plant growing in a watercourse near La Brea. Not very abundant, but well distributed through the Amotape Hills. I have never seen plants of this species growing elsewhere. Growing as a shrub 4–10 feet high, the plants are common at the top of Cerro Muerte, five miles from La Brea. The bracts of the inflorescence are of a soft pink or rose color, but the color varies in different specimens. When in bloom, a plant is very conspicuous—entirely covered with bracts.

Bougainvillea spinosa (Cav.) Heimerl in E. & P. Nat. Pfl. 3: Abth. 1b: 27. 1889. *Tricycla spinosa* Cav. Anal. Cienc. Nat. 5: 63. *pl. 40.* 1802.

This species, one of the few well-marked ones of the genus, has been known heretofore only from southern Argentina, but there may now be reported the following collection: Peru: Torata, Prov. Moquehua, 2,300 m., *Weberbauer 7414.* The occurrence of the plant in Peru, many hundreds of miles from the nearest Argentine station, is remarkable, to say the least. Careful examination of the Peruvian material reveals no differentiating characters by which it may be distinguished from Argentine specimens.

Neea Williamsii, sp. nov.—Frutex, ramulis gracillimis viridibus satis dense pilosis vel hirtellis, internodiis valde elongatis usque ad 12 cm. longis; folia opposita maxime inaequalia breviter petiolata, petiolo gracili 8–9 mm. longo dense piloso; lamina foliorum majorum late elliptico-oblonga c. 17 cm. longa et 7.5–8 cm. lata apice abrupte breviterque acuminata, acumine anguste triangulari acuto 1–1.5 cm. longo, basi valde obliqua et obtusa vel acutiuscula, crasse membranacea, in sicco laete viridis, supra lucida, tantum ad costam prominentem hirta, venis nervulisque valde prominulis et reticulatis, subtus fere concolor, ubique sparse pilis longiusculis pallidis patentibus pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 13 gracilibus prominulis angulo fere recto divergentibus rectis vel leviter arcuatis remote a margine conjunctis, nervulis paullo prominulis laxissime reticulatis; lamina foliorum minorum suborbicularis vel late elliptica 1.5–2.5 cm. longa; inflorescentia femina ut videtur pendula gracillime 13–16 cm. longe pedunculata cymoso-paniculata late pyramidalis c. 6 cm. longa et 5.5–9 cm. lata laxe pauciflora, ramis basalibus verticillatis patentibus dense pilosis, pedunculo sparse piloso, floribus aggregatis sessilibus vel breviter pedicellatis, bracteolis lineari-subulatis 1.5–2 mm. longis rufo-tomentellis; perianthium immaturum 3 mm. longum ovoideo-oblongum acutiusculum sparse rufo-puberulum.—Peru: Tarapoto, Dept. San Martín, alt. 360–900 m., December 21, 1909, *Llewelyn Williams 6567* (Herb. Field Mus. No. 614,446, type).

In general appearance this resembles *N. laxa* Poepp. & Endl., of the same region, but in that the leaves are glabrous. It must be related, likewise, to *N. oppositifolia* R. & P., of which I have seen no material, but the original plate of that species shows a plant with relatively broader leaves, and a much denser inflorescence on a comparatively short peduncle.

Allionia cristata (Standl.), comb. nov. *Wedelia cristata* Standl. Contr. U. S. Nat. Herb. 12: 331. 1909. *Wedeliella cristata* Cockerell, Torreya 9: 167. 1909.

Allionia Choisyi, nom. nov. *A. incarnata* L. var. *glabra* Choisy in DC. Prodr. 13²: 435. 1849, non *A. glabra* Kuntze, 1891. *Wedelia glabra* Standl. Contr. U. S. Nat. Herb. 12: 332. 1909. *Wedeliella glabra* Cockerell, Torreya 9: 167. 1909.

RANUNCULACEAE

Anemone multifida (Greene), comb. nov. *Pulsatilla multiceps* Greene, Erythea 1: 4. 1893.

NYMPHAEACEAE

Technically the generic name *Nymphozanthus* is, apparently, the proper one for the yellow pondlilies, but there is every reason for expecting that in the end common sense will prevail, and the name *Nuphar*, so long applied to the group, whether it is specially conserved or not, will be the one employed by most botanists. The name *Nuphar*, incidentally, may be used with equal propriety by those few American botanists who still cling to the so-called "American Code," since the application of the generic name *Nymphaea* to this group, rather than to the showy-flowered waterlilies, is a mere matter of quibbling.

The following species, published under *Nymphaea*, are here placed under the generic name to which it is believed they should be referred:

Nuphar fraternum (Miller & Standl.), comb. nov. *Nymphaea fraterna* Miller & Standl. Contr. U. S. Nat. Herb. 16: 82. 1912.

Nuphar advena Ait., var. **erthryaeum** (Miller & Standl.), comb. nov. *Nymphaea advena* subsp. *erythraea* Miller & Standl. Contr. U. S. Nat. Herb. 16: 91. 1912.

Nuphar ozarkanum (Miller & Standl.), comb. nov. *Nymphaea ozarkana* Miller & Standl. Contr. U. S. Nat. Herb. 16: 91. 1912.

Nuphar ludovicianum (Miller & Standl.), comb. nov. *Nymphaea ludoviciana* Miller & Standl. Contr. U. S. Nat. Herb. 16: 92. 1912.

Nuphar fluviatile (Harper), comb. nov. *Nymphaea fluviatilis* Harper, Bull. Torrey Club 33: 234. 1906.

Nuphar chartaceum (Miller & Standl.), comb. nov. *Nymphaea chartacea* Miller & Standl. Contr. U. S. Nat. Herb. 16: 94. 1912.

Nuphar ulvaceum (Miller & Standl.), comb. nov. *Nymphaea ulvacea* Miller & Standl. Contr. U. S. Nat. Herb. 16: 97. 1912.

Nuphar ovatum (Miller & Standl.), comb. nov. *Nymphaea ovata* Miller & Standl. Contr. U. S. Nat. Herb. 16: 97. 1912.

Nuphar puberulum (Miller & Standl.), comb. nov. *Nymphaea puberula* Miller & Standl. Contr. U. S. Nat. Herb. 16: 99. 1912.

Nuphar microcarpum (Miller & Standl.), comb. nov. *Nymphaea microcarpa* Miller & Standl. Contr. U. S. Nat. Herb. 16: 100. 1912.

Nuphar orbiculatum (Small), comb. nov. *Nymphaea orbiculata* Small, Bull. Torrey Club 23: 128. 1896.

Nuphar bombycinum (Miller & Standl.), comb. nov. *Nymphaea bombycina* Miller & Standl. Contr. U. S. Nat. Herb. 16: 102. 1912.

MENISPERMACEAE

Hyperbaena Winzerlingii Standl. Trop. Woods 9: 10. 1927.

A second collection may now be reported for this species: Honey Camp, Orange Walk, British Honduras, November, 1928, *C. L. Lundell 92*. The collector describes the plant as a large bushy tree. The very slender inflorescences are shorter than the leaves and hirtellous with short ascending hairs. The leaves of fertile branches are mostly 4–7 cm. long, and occasionally some of them are entire.

Annona scleroderma Safford, Journ. Washington Acad. Sci. 3: 105. *f. 1*. 1913.

The species was described from Cahabón, in the mountains of Alta Verapaz, Guatemala, and is reported doubtfully from Oaxaca in Mexico. The following collection establishes its occurrence in British Honduras: In forest near the Cockscomb Mountains, 150 m., June, 1930, *Schipp S110;* a tree 10.5 m. high, the trunk 24 cm. in diameter; flowers greenish yellow; fruit reddish; occasional.

CRUCIFERAE

Nasturtium clavatum (Rydb.), comb. nov. *Roripa clavata* Rydb. Bull. Torrey Club 29: 235. 1902. *Radicula clavata* Macoun, Ottawa Nat. 20: 142. 1906.

Nasturtium Williamsii (Britton), comb. nov. *Roripa Williamsii* Britton, Bull. N. Y. Bot. Gard. 2: 171. 1901. *Radicula Williamsii* Heller, Muhlenbergia 7: 124. 1912.

DROSERACEAE

Drosera intermedia Hayne.—Among the most interesting of all the many unusual plants discovered in British Honduras by W. A. Schipp is a *Drosera*, representing a family new to the Central American flora. Since so many other Cuban plants have been found in the pine woods of this region, the occurrence of this genus here is not surprising, although scarcely to be predicted. The record is as follows: British Honduras: All Pines, open places, common, at sea level, July, 1930, *W. A. Schipp 539;* flowers white or shell-pink. Although no ripe capsules are present to provide seeds for examination, the specimens appear to be referable to this species.

SAXIFRAGACEAE

Saxifraga adscendens L.—Although this species has been known to occur in British Columbia, it has not been recorded as a member of the Alaskan flora. It may now be reported from Alaska, as follows: Glacier Bay, Station 6, *William S. Cooper.*

LEGUMINOSAE

Calliandra papillosa (Britt. & Rose), comb. nov. *Anneslia papillosa* Britt. & Rose, N. Amer. Fl. 23: 63. 1928.

Calliandra belizensis (Britt. & Rose), comb. nov. *Anneslia belizensis* Britt. & Rose in Standl. Trop. Woods 11: 19. 1927.

A second collection of this well-marked species has been received from British Honduras: Honey Camp, December, 1928, *C. L. Lundell 148.*

Calliandra chapaderoana (Britt. & Rose), comb. nov. *Anneslia chapaderoana* Britt. & Rose, N. Amer. Fl. 23: 69. 1928.

Calliandra salvadorensis (Britt. & Rose), comb. nov. *Anneslia salvadorensis* Britt. & Rose, N. Amer. Fl. 23: 68. 1928.

Calliandra izalcoensis (Britt. & Rose), comb. nov. *Anneslia izalcoensis* Britt. & Rose, N. Amer. Fl. 23: 69. 1928.

Calliandra Juzepczukii, sp. nov.—Frutex, ramulis crassis teretibus ferrugineis dense albo-pilosis; stipulae herbaceae vel subinduratae latissime ovatae 3.5 mm. longae acutae vel apiculatae sparse minute pilosulae persistentes; folia petiolata, petiolo 1–1.5 cm. longo dense albo-piloso, pinnis 4–6-jugis 3.5–6.5 cm. longis, rhachi dense albo-pilosa; foliola 20–45-juga oblonga recta vel paullo sursum curva c. 4.5 mm. longa et 1.5 mm. lata falcato-acuta et apiculata crasse coriacea, supra lucida, glabra, subtus paullo pallidiora, sparse strigillosa vel glabrata; flores capitati, capitulis paucifloris solitariis vel geminatis in racemos terminales rigidos c. 16 cm. longos dispositis, pedunculis crassis c. 1 cm. longis densissime breviterque albo-pilosulis, floribus arcte sessilibus, bracteis latissime ovatis obtusis vel acutiusculis usque ad 5 mm. longis extus dense adpresso-pilosulis; calyx latissime campanulatus 4–4.5 mm. longus, 8 mm. latus, extus dense albo-sericeus breviter 5-lobus, lobis latissime triangularibus obtusissimis; corolla extus dense albo-sericea 12–14 mm. longa fere ad basin 5-loba, lobis oblongo-ovatis acutis 4.5 mm. latis; stamina numerosissima, filamentis gracillimis purpureis c. 4 cm. longis.—Mexico: Arriaga, Chiapas, January 7, 1926, *S. Juzepczuk 1382* (Herb. Field Mus. No. 621,426, type; duplicate in Leningrad Herb.).

Apparently this Chiapas plant is closest to *Calliandra Palmeri* Wats., described from Jalisco and known also from the state of Nayarit. That differs in having about 15 pairs of pinnae to the leaf, larger leaflets, and longer stamens.

Bauhinia hondurensis, sp. nov.—Frutex scandens cirrhifer inermis, ramulis gracilibus teretibus ferrugineis vel brunneis, novellis dense minute pilosulis; folia alterna longe petiolata subcoriacea, petiolo gracillimo 2–8 cm. longo pilis brunnescentibus patentibus vel subadpressis piloso; lamina ad medium vel profundius biloba 3.5–10.5 cm. longa 3.5–8 cm. lata, basi cordata vel subcordata, sinu aperto, lobis late semiovatis acutis vel obtusis versus apicem angustatis, 4-nerviis, supra sublucidis, glabris, nervis prominulis, nervulis prominulis arctissime reticulatis, subtus paullo pallidioribus, sparse vel subdense pilis gracillimis patentibus vel subadpressis pilosis, ad nervos densius pilosis, nervis gracilibus prominentibus, nervulis prominulis arctissime reticulatis; flores racemosi, racemis subpaniculatis pedunculatis 3–4 cm. longis laxe pauci- vel multifloris, pedicellis gracilibus 6–10 mm. longis minute pilosulis, bracteis linearibus attenuatis 4–5 mm. longis, bracteolis paullo infra medium pedicelli insertis lineari-subulatis 3–4 mm. longis; calyx ante anthesin fere clausus 10-nervius sparse sericeus, tubo 6 mm. longo basi rotundato late campanulato, lobis lineari-attenuatis 3–3.5 mm. longis inaequalibus; petala c. 2 cm. longa apice obtusa vel rotundata suberecta libera basin versus longe attenuata, extus sparse ad ungues densius pilis longis subadpressis brunnescentibus pilosa; stamina perfecta 10 calyce breviora, antheris minutis; legumen oblongum versus apicem paullo latius c. 7.5 cm. longum et 2.5 cm. latum, tenuiter adpresso-pilosum, c. 5-spermum.—Honduras: A woody vine overhanging the

river, Lancetilla, June–July, 1929, *A. M. Chickering 152* (Herb. Field Mus. No. 622,373, type). San Pedro Sula, Dept. Santa Bárbara, 240 m., October, 1887, *Thieme 5184*. La Ceiba, December, 1927, *Holger Johansen 3*.

One of the collections has been referred to *Bauhinia cumanensis* HBK. *B. hondurensis* is a relative of *B. glabra* Jacq., which was described from Colombia and is reported from Yucatan. The latter is distinguished at a glance by the short, rounded lobes of the leaves and by its much more abundant pubescence.

Schizolobium parahybum (Vell.) Blake.—This fine yellow-flowered tree was not known from Mexico at the time of preparation of the manuscript for the *Trees and Shrubs of Mexico* (Contr. U. S. Nat. Herb. 23). The genus was recorded from Mexico in 1925 (Samuel J. Record, *Schizolobium: A Promising Source of Pulpwood*. Trop. Woods 2: 2–5). The report was based upon a specimen of the wood obtained somewhere in southern Mexico. The species may now be reported definitely from the country upon the basis of a recent collection: Palo Dulce, Veracruz, March 1, 1930, *C. D. Mell 679*. The collector reports the vernacular name as "judío."

Sophora tomentosa L.—In the West Indies *Sophora tomentosa* seems to be a common shrub of seashores, but in Mexico, so far as collections indicate, it is decidedly rare, and in Central America it is reported only from Colón, collected many years ago by Hayes, but not found there by recent collectors. A new station may be put on record, as follows: British Honduras: All Pines, in broken coral behind mangrove swamps, rare, September, 1930, *W. A. Schipp 609;* a shrub 3 m. high with yellow flowers.

Parosela Thompsonae Vail, Bull. Torrey Club 24: 18. 1897.

This species is not listed by Tidestrom in his *Flora of Utah and Nevada*, and apparently it has been known only from northern Arizona. The following collection, therefore, represents a new state record: Utah: East side of Mount Ellen, Henry Mountains, Garfield County, July 5, 1930, *W. D. Stanton 338*. The specimen was communicated by Professor A. O. Garrett.

Petalostemon oligophyllus (Torr.) Rydb. Mem. N. Y. Bot. Gard. 1: 237. 1900. *P. gracilis* var. *oligophyllus* Torr. in Emory, Mil. Reconn. 139. 1848.

This widespread western species, strangely enough, is not reported from Utah by Tidestrom in his flora of that State. There may be recorded the following Utah collections: Moab, June, 1927, *W. P. Cottam 2158;* Bluff, July, 1927, *Cottam 2556*.

Eriosema pinetorum, sp. nov.—Herba perennis, caulibus pluribus e radice incrassata erectis c. 20 cm. altis gracilibus rigidis viridibus sparse puberulis et pilis fulvis adscendentibus rigidiusculis longiusculis hirsutis dense foliatis; folia alterna sessilia vel 2 mm. tantum longe petiolata; stipulae brunneae lineari-attenuatae 14 mm. longae striatae puberulae et sparse hirsutae; foliola linearia subcoriacea 5–10.5 cm. longa 5–8 mm. lata versus apicem mucronato-apiculatum acutiusculum sensim angustata basi obtusa, supra viridia, glabra vel sparse scaberula, costa gracillima prominula, nervulis vix prominulis arcte reticulatis, subtus fere concolor, ad costam marginesque sparse adpresso-hirsuta, costa gracili elevata, nervis lateralibus numerosis brevibus arcuatis angulo semirecto adscendentibus, nervulis prominulo-reticulatis; racemi axillares c. 1.5 cm. longe pedunculati capituliformes pauciflori, pedunculo gracili sparse hirsuto, pedicellis 1–2 mm. longis; calyx c. 6.5 mm. longus sparse pilis brunnescentibus vel fulvis hirsutus, tubo campanulato 1.5–2 mm. longo, lobis paullo inaequalibus e basi lineari-lanceolata longe setiformi-productis erectis; petala lutea, vexillo 8 mm. longo extus sparse hirtello vel puberulo obovato-oblongo, alis angustis glabris basin versus longe attenuatis vexillo fere aequilongis.—British Honduras: All Pines, in open places, at sea level, common, August 20, 1930, *William A. Schipp 584* (Herb. Field Mus. No. 621,945, type).

In general appearance as well as in technical details this plant resembles *Eriosema diffusum* (HBK.) Don, a common plant of the pine forests of Central America. That species differs constantly in its much broader leaves, shorter stipules, and more abundant, appressed, silky pubescence.

Centrosema angustifolia (HBK.) Benth.—A recent collection makes it possible to report this handsome small vine from British Honduras: All Pines, at sea level, growing in open places, August, 1930, *W. A. Schipp 579;* a vine 2 m. long; flowers reddish purple; common.

EUPHORBIACEAE

Hiernonyma oblonga (Tul.) Muell. Arg.—Heretofore this tree has been known in Mexico from Puebla and Oaxaca, without any further stations until the Guianas were reached. The following collection indicates it as an addition to the flora of Central America: British Honduras: Sittee River, at sea level, in secondary forest, August, 1930, *W. A. Schipp 592;* a tree 10.5 m. high, the trunk 24 cm. in diameter; rare; flowers white; wood white.

AQUIFOLIACEAE

Ilex Liebmannii, sp. nov.—Frutex vel arbor, ramulis gracilibus plus minusve angulatis, vetustioribus cinereis, junioribus fusco-ferrugineis, minutissime puberulis, internodiis brevibus; folia alterna

longiuscule petiolata, petiolo gracili 6–8 mm. longo minutissime puberulo vel fere glabro; lamina tenuiter coriacea lanceolata vel elliptico-lanceolata 4.5–5 cm. longa, 1–2 cm. lata, subabrupte longeque acuminata, acumine angusto longe attenuato subintegro, basi acutiuscula vel obtusa, in toto margine aequaliter adpresse spinuloso-serrata, supra in sicco fusca lucida, tantum ad costam prominulam minute puberula, nervis subimpressis, subtus glabra, paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 10 gracilibus prominentibus angulo latiusculo abeuntibus fere rectis, nervulis paucis prominulis laxe reticulatis; inflorescentiae feminae in axillis solitariae umbellatim 2–3-florae graciliter 4–13 mm. longe pedunculatae, pedunculis ut pedicelli graciles 3–6 mm. longi glabris; calyx 2–2.5 mm. latus glaber breviter 4-lobus, lobis late rotundatis; bacca glabra subglobosa 3.5 mm. longa basi et apice rotundata, nuculis 4.—Mexico: Petlapa, Veracruz, in 1841–43, *Liebmann 14927* (Herb. Field Mus. No. 614,053, type; duplicate in Copenhagen herb.). Amatlán, July, 1842, *Liebmann 14926* (F, Copenhagen).

A relative of *Ilex mexicana* (Turcz.) Black, which also occurs in the state of Veracruz, but that species has larger leaves, 6.5–9 cm. long, of different outline, and larger fruits.

CELASTRACEAE

Glossopetalon spinescens Gray, var. **meionandrum** (Koehne) Trel. in Gray, Syn. Fl. 1[1]: 401. 1897. *G. meionandrum* Koehne, Gartenflora 43: 237. *f. 52.* 1894.

Utah: Price, Carbon Co., April, 1930, *S. Flowers Fg41–30;* flowering material. Same locality, May, 1930, *Flowers Fg32–30;* fruiting specimens.

This variety has not been reported previously from Utah. By Rydberg the form is maintained as a distinct species. In *G. spinescens* the stamens are normally 10, while in var. *meionandrum* they vary from 5 to 7, or in some flowers the number is even greater. Since the plants are so much alike in all other respects, *G. meionandrum* hardly seems worthy of more than varietal rank.

Celastrus Liebmannii, sp. nov.—Frutex scandens omnino glaber, ramulis gracilibus subteretibus fusco-ferrugineis lenticellis numerosis parvis pallidis elevatis dense conspersis, internodiis plerumque elongatis; folia alterna, petiolo gracili vel crassiusculo 5–8 mm. longo; lamina elliptico-oblonga vel elliptica, 6–10 cm. longa, 2.5–5 cm. lata, acuta vel abrupte acuta, interdum acuminata, basi acuta vel obtusa, remote et adpresse crenato-serrata, subcoriacea, fere concolor; paniculae axillares solitariae laxe pauci- vel multiflorae interdum racemiformes, foliis breviores vel interdum folia aequantes, bracteis minutis triangularibus vel subulatis, pedicellis 1–4 mm. longis; flores c. 2 mm. lati, sepalis late rotundatis denticulatis vel integris, petalis brevibus apice late rotundatis; stamina petalis

paullo longiora; stylus crassus 0.7 mm. longus.—Mexico: Mirador, Veracruz, February, 1842, *Liebmann 14871* (Herb. Field Mus. No. 614,044, type; duplicate in Copenhagen herb.); March, 1842, *Liebmann 14875b* (F, Copenhagen); *Liebmann 14875, 14875a, 14872, 14873.* Zacuapan, Veracruz, March, 1914, *Purpus 7094.* Thickets of hills near Jalapa, Veracruz, April, 1899, *Pringle 8133.*

The fruit of this plant, unfortunately, is not known. The only other plant certainly referable to *Celastrus* and reported from Mexico is *C. Pringlei* Rose, which is conspicuously different in leaf characters.

HIPPOCRATEACEAE

Hippocratea yucatanensis Standl. Field Mus. Bot. 8: 19. 1930.

Described from Yucatan, it is natural that this species should occur in adjacent Central America, and it is represented by the following collection from British Honduras: Mullins River Road, in swampy places, flowers white, *W. A. Schipp 119.*

THEACEAE

Eurya lancifolia, sp. nov.—Arbor 15-metralis, trunco 30 cm. diam., ramulis gracilibus teretibus fusco-ferrugineis, novellis pilis brevibus adscendentibus gracilibus rigidiusculis pilosulis, internodiis brevibus; folia alterna crasse membranacea breviter petiolata, petiolo crassiusculo c. 15 mm. longo adpresso-pilosulo; lamina anguste lanceolato-oblonga 11–14 cm. longa 2.8–4.3 cm. lata longe sensimque acuminata basi rotundata, creberrime crenato-serrulata, supra obscure olivacea, ad costam prominentem dense pilosula, aliter glabra, venis inconspicuis, subtus pallidior, ubique sparse, ad costam densius pilis lutescentibus brevibus et longioribus intermixtis subpatentibus pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 20 gracilibus prominentibus angulo latiusculo adscendentibus arcuatis prope marginem conjunctis, nervulis prominulis laxe reticulatis; flores in axillis vel ad nodos defoliatos fasciculati pauci vel numerosi, pedicellis in statu fructifero 4–5 mm. longis crassiusculis dense minute pilosulis, bracteolis rotundatis sepalis duplo brevioribus; sepala rotundata 3.5 mm. longa apice late rotundata extus dense fulvo-sericea intus glabra; bacca nigra subglobosa glabra 7 mm. longa stylo persistente conico 1 mm. longo apiculata.—British Honduras: Middlesex, in mountain forest, alt. 120 m., November 15, 1929, *William A. Schipp 455* (Herb. Field Mus. No. 606,831, type).

Eurya guatemalensis Donn. Smith differs in having the lower surface of the leaves covered with a very dense and coarse, brownish tomentum. In *E. Seemanniana* Pittier, of Panama, the leaves are densely sericeous beneath and acute at the base.

FLACOURTIACEAE

Abatia mexicana, sp. nov.—Ramuli graciles subteretes, primo dense stellato-tomentosi, cito glabrati; folia opposita, petiolo gracili 6–9 mm. longo dense stellato-tomentoso; lamina crasse membranacea anguste ovata vel lanceolato-oblonga, 4–5 cm. longa, 1.5–2 cm. lata, longe sensimque acuminata, basi late rotundata, subobscure crenato-serrata, utrinque sparse stellato-pilosa; racemi 1–3 cm. longe pedunculati, multiflori, 5–6 cm. longi, rhachi gracili dense stellato-tomentosa, pedicellis c. 2 mm. longis, bracteis brevibus lanceolato-subulatis; alabastra late ovoidea 2.5–3 mm. longa acuta densissime tomento fulvo stellato-tomentosa; sepala 4 patentia vel subreflexa late ovata 2.5 mm. longa acuta intus puberula; ovarium dense stellato-pilosum. —Mexico: Mirador, Veracruz, in 1841–43, *Liebmann 15030* (Herb. Field Mus. No. 614,054, type; duplicate in Copenhagen herb.).

The genus has not been reported previously for the Mexican flora, so far as I am aware. The South American *Abatia parviflora* R. & P. grows in the mountains of Costa Rica, and that has been believed to be the northern limit in distribution of the genus. *A. parviflora* differs from the Mexican plant in its very much larger flowers.

Xylosma celastrinum (HBK.), comb. nov. *Flacourtia celastrina* HBK. Nov. Gen. & Sp. 7: 239. 1825. *Myroxylon celastrinum* Kuntze, Rev. Gen. 1: 44. 1891.

MYRTACEAE

Psidium rotundifolium, sp. nov.—Frutex 60 cm. altus, ramis subteretibus crassiusculis obscure brunneis, novellis obtuse trigonis dense minute pilosulis, internodiis usque ad 5.5 cm. longis; folia opposita vel subopposita brevissime petiolata coriacea, petiolo crasso 3–5 mm. tantum longo dense et minutissime pilosulo; lamina orbicularis vel rotundato-elliptica 10.5–12.5 cm. longa 8.5–10.5 cm. lata, apice late rotundata et saepe brevissime emarginata, basi late rotundata vel leviter cordata, utrinque punctis minutis nigris sparsis conspersa, supra sublucida, ad costam puberula vel fere glabra, costa venisque manifestis sed vix elevatis, subtus fere concolor, ad costam crassam elevatam sparse pilosula, aliter glabra vel glabrata, nervis lateralibus utroque latere c. 7 angulo lato adscendentibus prominentibus gracilibus subarcuatis remote a margine conjunctis, nervulis reticulatis; inflorescentiae axillares c. triflorae foliis duplo breviores, pedunculo c. 2 cm. longo dense minute pilosulo pedicellis brevissimis; bacca (immatura?) ovalis c. 2.5 cm. longa et 2 cm. lata basi et apice rotundata sparse puberula vel glabrata apice calyce subpersistente coronata lutea; calyx ut videtur fere aequaliter 5-lobus, lobis late ovali-oblongis c. 5 mm. longis apice rotundatis intus dense puberulis. —British Honduras: All Pines, in open places, at sea level, September 5, 1930, *William A. Schipp S85* (Herb. Field Mus. No. 621,914, type).

The collector states that the fruit has a tart flavor, and that the flowers (none are present on the single specimen seen) are white.

In its unusually large leaves, rounded and nearly as broad as long, this plant is strikingly unlike any other species known heretofore from Central America, or from the West Indies. The discovery of a single new species of *Psidium* or guava in Central America would have been a surprise, but the discovery in a single locality of four is astonishing. They are a further proof, if one were necessary, of the need for additional collecting in British Honduras.

Psidium chrysobalanoides, sp. nov.—Frutex 60 cm. altus, ramis acute quadrangulatis ferrugineo-brunneis ad angulos anguste alatis, novellis sparse minute sericeis mox glabratis, internodiis foliis paullo brevioribus; folia opposita coriacea in sicco luteo-viridia fere sessilia, petiolo crasso c. 2 mm. longo; lamina obovata vel late elliptico-obovata, rare obovato-rotundata, 4.5–7 cm. longa, 3–4.5 cm. lata, apice rotundata vel late rotundata et abrupte breviterque producta, acumine latissime triangulari obtuso pallido-marginato, basi cuneata vel obtusa, utrinque dense puncticulata, supra sublucida, sparse minute sericea vel fere glabra, costa venisque prominentibus et arcte reticulatis, subtus paullo pallidior, densiuscule pilis minutis pallidis adpressis sericea, costa crassa elevata, nervis lateralibus utroque latere c. 6 angulo acutissimo valde adscendentibus fere rectis vel leviter curvis prominentibus gracilibus prope marginem conjunctis, nervulis prominulis arcte reticulatis, margine pallido vel stramineo et paullo incrassato; cymae axillares triflorae vel uniflorae 1.5 cm. longe pedunculatae, flore centrali sessili, lateralibus 1 cm. longe pedicellatis, pedunculo obtuse quadrangulato et pedicellis crassiusculis glabratis; bacca immatura globoso-obovoidea c. 1 cm. longa basin versus paullo angustata sparse puberula vel fere glabra calyce persistente coronata; calyx c. 5 mm. longus profunde 5-lobus, lobis valde inaequalibus latis apice subtruncatis intus sericeis.—British Honduras: All Pines, in open places, at sea level, August 25, 1930, *William A. Schipp 596* (Herb. Field Mus. No. 621,925, type).

The collector reports that the fruit of this guava is tart and good for making jelly. The flowers are described as white, but none are present on the specimens.

Psidium chrysobalanoides differs conspicuously from *P. rotundifolium* in its small, narrower, nearly sessile leaves and different pubescence.

Psidium Schippii, sp. nov.—Frutex 60 cm. altus, ramis subteretibus brunneis rimosis et sparse lenticellatis, novellis dense pilis brevibus pallidis subpatentibus pilosulis, internodiis foliis plus quam duplo brevioribus; folia opposita vel subopposita crasse coriacea breviter petiolata, petiolo crasso 3–8 mm. longo pilosulo; lamina obovata vel oblongo-obovata 11–12 cm. longa 4.5–6 cm. lata obtusa

vel interdum rotundata et obscure apiculata, basin versus sensim angustata, basi ipsa acuta vel subobtusa, supra luteo-viridis, sublucida, primo sparse pilosula sed mox glabrata, venis ut costa vix prominulis arcte reticulatis, subtus paullo pallidior, ubique satis dense pilis debilibus albis subpatentibus pilosula, serius glabrata, costa crassa elevata, nervis lateralibus utroque latere c. 6 angulo acuto adscendentibus elevatis leviter curvis vel fere rectis crassiusculis juxta marginem conjunctis, nervulis prominentibus arctissime reticulatis; cymae ad nodos defoliatos infra folia insertae triflorae 3.5 cm. longe pedunculatae, flore centrali sessili, lateralibus crasse 8 mm. longe pedicellatis; baccae immaturae ovali-globosae c. 2 cm. longae et fere aequilatae densiuscule pilosulae vel glabratae basi et apice rotundatae calyce persistente coronatae; calyx c. 5 mm. longus profunde et inaequaliter lobatus, lobis intus prope apicem sericeis.—British Honduras: All Pines, in open places, at sea level, August 25, 1930, *William A. Schipp 595* (Herb. Field Mus. No. 621,991, type).

The flowers (none are present on the specimens) are described as white, and the fruit as yellow and of tart flavor.

At first I was inclined to regard this plant as only a variety of *P. chrysobalanoides*, but it seems worthy of specific rank, differing from that species in its long and narrow leaves, with distinctive pubescence.

Psidium hypoglaucum, sp. nov.—Frutex 60 cm. altus, ramis acute quadrangulatis pallide cinnamomeis ad angulos angustissime alatis densissime pilis albidis adscendentibus pilosulis, internodiis 2.5–3 cm. longis; folia opposita coriacea breviter petiolata, petiolo crasso 3–5 mm. longo dense albido-pilosulo; lamina elliptico-obovata vel fere elliptica 6–8.5 cm. longa, 4–5 cm. lata, apice rotundata vel obtusissima et apiculata, acumine acuto, basi cuneata vel subobtusa, utrinque dense puncticulata, supra densiuscule pilis albidis debilibus pilosula, lucidula, venis prominulis arcte reticulatis, subtus grisea, ubique dense griseo-tomentosa, costa crassiuscula elevata, nervis lateralibus utroque latere c. 9 angulo semirecto adscendentibus gracilibus elevatis regularibus fere rectis vel leviter curvis juxta marginem conjunctis, nervulis tomento fere occultis; pedunculi (unus tantum visus) validi 3.5 cm. longi uniflori dense albido-pilosuli axillares; bacca globosa c. 1.8 cm. longa basi et apice rotundata albido-pilosula calyce persistente coronata; calyx c. 6 mm. longus profunde et irregulariter lobatus.—British Honduras: All Pines, in open places, at sea level, September 7, 1930, *William A. Schipp S99* (Herb. Field Mus. No. 621,957, type).

"Flowers white; fruit yellow; very rare."

From the other species described here, this differs conspicuously in the abundant pale tomentum of the leaves, and in their numerous veins.

Eugenia flavifolia, sp. nov.—Arbor 7.5 m. alta, trunco 10 cm. diam., ramulis gracilibus rigidis albidis, novellis ochraceis vel cin-

namomeis minutissime puberulis vel glabratis, internodiis plerumque 1.5–3 cm. longis; folia opposita breviter petiolata subcoriacea, petiolo gracili 4–6 mm. longo minutissime puberulo vel glabrato; lamina elliptico-oblonga vel oblongo-ovata 6–8 cm. longa 2–3.5 cm. lata, obtusa vel acutiuscula, apice obtuso, basi acuta, supra lucida, pallide luteo-viridis, epunctata, tantum ad costam minute puberula vel fere glabra, venis prominulis, subtus paullo pallidior, luteo-viridis, minute nigro-puncticulata, glabra, costa gracili elevata, nervis lateralibus utroque latere c. 8 gracilibus prominulis angulo latiusculo adscendentibus inaequalibus fere rectis prope marginem conjunctis, nervulis prominulis reticulatis; flores racemosi, racemis axillaribus solitariis plerumque 4–8-floris, rhachi usque ad 5 mm. longa, pedicellis 2–6 mm. longis rigidiusculis minutissime puberulis vel glabratis, bracteolis 2 late rotundatis c. 1 mm. longis minutissime puberulis et ciliolatis; calycis tubus obovoideus glaber 1 mm. longus, sepalis 4 rotundatis 1.5 mm. longis glabris in statu fructifero usque ad 2 mm. latis punctatis; petala alba rotundato-obovata apice rotundata vel obtusissima 3.5 mm. longa puncticulata; bacca depresso-globosa 5–6 mm. lata dense punctata rubra basi et apice late rotundata, apice calyce persistente coronata; semen 1.—British Honduras: Stann Creek Railway, in swampy places, alt. 15 m., November 14, 1929, *William A. Schipp 450* (Herb. Field Mus. No. 606,830, type); in open forest, swampy places, November 12, 1929, *Schipp 438*.

The collector states that the tree is common, and that the flowers have a strong perfume.

CORNACEAE

Cornus disciflora DC., var. **floccosa** (Wang.), comb. nov. *C. floccosa* Wang. Repert. Sp. Nov. 6: 101. 1908.

Although the plant described as *Cornus floccosa* seems distinct enough in its extreme state, there are intermediate specimens which show that it can not well be maintained as a distinct species. It does appear, however, to be worthy of varietal rank.

MYRSINACEAE

Stylogyne ramiflora (Oerst.) Mez.—Only a single species, *Stylogyne laevis* (Oerst.) Mez, of this genus has been known heretofore from Mexico, but a recent collection permits the record of *S. ramiflora* from the country: Chiapas: Ríoarriba, December, 1925, *S. Juzepczuk 1289*.

Rapanea guianensis Aubl.—This well-known shrub or small tree ranges widely, being known in Mexico from Chiapas, and occurring in Florida, the West Indies, and South America, but until now it has not been discovered in Central America. The following

collection is at hand: British Honduras: All Pines, edge of mangrove swamp, August, 1930, *W. A. Schipp 536;* a tree 9 m. high with a trunk 12.5 cm. in diameter; fruits black.

PRIMULACEAE

Lysimachia mexicana Knuth in Engl. Pflanzenreich IV. 237: 308. 1905.

This species, so briefly characterized by its author, was based upon *Galeotti 7228* from the mountains of Oaxaca, Mexico. Another collection has been seen by the present writer: El Pelado, Oaxaca, August, 1843, *Liebmann* (F, Copenhagen).

SAPOTACEAE

Bumelia cuneata Sw.—Besides the many recent additions to the Central American Sapotaceae, there may now be recorded this species from British Honduras: All Pines, growing among mangroves, August, 1930, *W. A. Schipp 585;* a tree 6 m. high, the trunk 10 cm. in diameter, rare; fruits small and black.

APOCYNACEAE

Cameraria belizensis Standl. Trop. Woods 7: 8. 1926.

From British Honduras there may be reported another collection of this interesting tree: Honey Camp, Orange Walk, September, 1928, *C. L. Lundell XXV.* The vernacular name is given as "chechém de caballo."

CONVOLVULACEAE

Ipomoea digitata L.—In spite of the fact that it is widely distributed in tropical America, and apparently common in some regions, the present species probably has not been known before from Central America, unless under some other specific name. The following collection is from British Honduras: Sittee River, on river bank, at sea level, September, 1930, *W. A. Schipp 636;* a vine 6 m. long; corolla rose-pink; occasional.

Lysiostyles sericea, sp. nov.—Frutex alte scandens, ramulis gracilibus teretibus, novellis viridescentibus dense minute sericeis, internodiis elongatis; folia petiolata alterna crasse papyracea, petiolo gracili 1.5–3.5 cm. longo dense sericeo; lamina elliptico-oblonga vel elliptico-ovata 7–13 cm. longa 3.5–6.5 cm. lata, apice obtusa vel acuta et breviter apiculata vel interdum breviter et subito acuminata, basi leviter cordata usque ad acuta, supra in sicco cinereo-viridis, glabra,

venis non elevatis, subtus densissime sericea et lucida, costa gracili elevata, nervis lateralibus utroque latere c. 9 angulo acuto adscendentibus gracillimis prominulis fere rectis; inflorescentiae axillares solitariae breviter pedunculatae racemiformes multiflorae petiolis multo breviores, in statu fructifero plus minusve elongatae, pedicellis crassiusculis dense sericeis plerumque 3–4 mm. longis, post anthesin paullo elongatis; sepala aequalia suborbicularia 4 mm. longa apice rotundata vel obtusissima et obscure apiculata extus dense sericea intus glabra; corolla (in alabastro tantum visa) extus dense sericea fere ad basin 5-fida, lobis triangularibus acutis; stamina ut videtur exserta ad faucem affixa, antheris oblongis; capsula subglobosa c. 13 mm. longa glabra apice breviter apiculata 3–4-valvis, seminibus 3–4 magnis glabris.—Honduras: Lancetilla Valley, Dept. Atlántida, June–July, 1929, *A. M. Chickering 130* (Herb. Field Mus. No. 622,386, type). Lancetilla Valley, in wet thicket, alt. about 20 m., 1927–28, *Standley 55233, 56577*.

The generic position of the shrub here described is decidedly uncertain, but the plant seems to be placed more satisfactorily in *Lysiostyles* than in any of the other described genera of the Convolvulaceae. The fruit is unusual for any group of the family. It is a dry capsule with thick, woody, and more or less elastic valves, which at maturity split into numerous longitudinal valves that resemble barrel staves and remain attached to one another. The seeds are covered with a copious orange-red fleshy coating. When fresh, the fruits strongly suggest those of the North American bittersweet (*Celastrus*). The plant seemed to be a rare one, for I saw only a few individuals about Lancetilla. They were large woody vines, climbing to the tops of small trees.

BORAGINACEAE

Bourreria oxyphylla Standl. Trop. Woods 16: 40. 1928.

New collections may be reported for this species, as follows:

British Honduras: Hillbank, July 12, 1928, *C. S. Brown 21;* a tree 12–19 m. high, the trunk 45 cm. in diameter. Honey Camp, Orange Walk, *C. L. Lundell 117;* vernacular name, "laurel."

VERBENACEAE

Tamonea curassavica (L.) Pers.—Although rather widely distributed in eastern Mexico, and occurring as far south as Yucatan, this plant is not recorded, apparently, as a member of the Central American flora. The following collection may be reported: British Honduras: In low scrub, All Pines, at sea level, September, 1930, *W. A. Schipp 612;* a plant a meter high with blue flowers and black fruit.

Citharexylum hirtellum Standl. Field Mus. Bot. 4: 257. 1929.

A second collection of this species may now be reported from British Honduras: Freshwater Creek, September 6, 1928, *J. B. Kinloch 2*. The specimens are in flower.

SOLANACEAE

Eutheta, gen. nov.—Herbae ramosae ut videtur erectae, hispidulae, ramulis obtuse tetragonis; folia opposita vel superiora alterna, simplicia, dentata; flores majusculi solitarii axillares pedunculati albi, pedunculo supra medium foliaceo-bibracteolato; calyx campanulatus magnus 10-costatus viridis breviter 5-dentatus, dentibus triangularibus, fructifer auctus vesiculoso-inflatus, 5-angulatus, capsulam includens; corolla infundibuliformi-campanulata magna, limbo plicato 5-lobo, lobis late rotundatis; filamenta supra tubum brevem corollae inserta, brevia, basi vix dilatata, antheris medio affixis ovatis apiculatis, loculis in longitudinem dehiscentibus; ovarium globosum 2-loculare, stylo gracili elongato, stigmatibus brevibus oblongis, ovulis numerosissimis; capsula globoso-ovoidea calyce inflato inclusa, acuminata, 2-locularis loculicide bivalvis; semina numerosissima densissime conferta clavato-acicularia, testa pallida spongiosa, embryone tereti recto fere centrali.

Type species, *Cacabus hondurensis* Donn. Smith.

There are at hand several Mexican collections of a curious solanaceous plant which is evidently identical with one described from Honduras by Captain John Donnell Smith under the name *Cacabus hondurensis*. The plant, if one may judge from habit and general appearance alone, is anomalous in the genus *Cacabus*. The flowers and calyx are much like those of the genera *Cacabus* and *Physalis*, and apparently they do not afford characters which would justify the separation of the plant as a new generic type.

Fruits of *Cacabus hondurensis* have not been available until the present time, but they are now supplied by a specimen collected in 1841 at Mirador, Mexico, by Liebmann. Examination of these fruits shows that it is impossible to refer the plant to *Cacabus*, or to the genus *Physalis*, although the latter group does contain some rather anomalous species. The fruit of *Cacabus hondurensis*, as shown by these Mexican specimens, is clearly a capsule rather than a berry, but most remarkable are the seeds, which are unlike any that I have seen elsewhere in the family. They are very numerous and closely packed, acicular in form, tapering slightly toward the base, and they have a pale translucent testa at about the middle of which there appears the darker embryo.

Evidently the plant must be treated as a distinct genus, for which the name *Eutheta* is here proposed:

Eutheta hondurensis (Donn. Smith), comb. nov. *Cacabus hondurensis* Donn. Smith, Bot. Gaz. 56: 60. 1913.

The following specimens have been seen: Honduras: Llano de la Puerta near Copán, alt. 900 m., January 8, 1907, *H. Pittier 1828* (U. S. Nat. Herb., type).—Mexico: Totutla, August, 1841, *Liebmann 15455* (F, Copenhagen). Dos Puentes, August, 1841, *Liebmann 15456* (F, Copenhagen). Mirador, Veracruz, November, 1841, *Liebmann 15457* (F, Copenhagen). Hacienda Coahuayula, Michoacán, November, 1906, *G. M. Emrick 95* (F); vernacular name, "tomatillo."

Melananthus guatemalensis (Benth.) Solereder.—This curious plant was described from Guatemala, and was collected recently in Honduras by the present writer (Field Mus. Bot. 4: 323. 1929). The genus and species may now be reported for the flora of Mexico: Consoquitla, August, 1841, *Liebmann* "Hypericaceae 38" (Herb. Copenhagen; fragm. in herb. Field Mus.).

SCROPHULARIACEAE

Lagotis minor (Willd.), comb. nov. *Gymnandra minor* Willd. Ges. Naturf. Freund. Berlin Mag. 5: 393. *pl. 9, f. 3.* 1811.

Lagotis reniformis (Willd.), comb. nov. *Gymnandra reniformis* Willd. Ges. Naturf. Freund. Berlin Mag. 5: 396. *pl. 10, f. 9.* 1811.

Russelia campechiana Standl. Contr. U. S. Nat. Herb. 23: 1309. 1924.

Known previously only from Campeche, this well-marked species may now be reported from British Honduras: Honey Camp, October, 1929, *C. L. Lundell 576.* The specimens are in fruit only.

OROBANCHACEAE

Boschniakia rossica (C. & S.), comb. nov. *Orobanche rossica* C. & S. Linnaea 3: 132. 1828. *B. glabra* C. A. Mey. ex Bong. Mém. Acad. St. Pétersb. VI. 2: 159. 1832.

RUBIACEAE

Cephalanthus glabratus (Spreng.) Schum. in Mart. Fl. Bras. 6^6: 128. 1889. *Buddleia glabrata* Spreng. Syst. Veg. 1: 431. 1825.

Although this species is described and illustrated by Schumann in the *Flora Brasiliensis,* no specimens are cited from Brazil. Probably it has been recorded previously from Brazil, but, at any rate, it is worth while to place on record the following collection from that country: Rio Grande do Sul: Quinta prope Rio Grande, in silvis fruticetisque plus minusve humidis, in 1892, *Malme 404* (Herb. Stockholm).

Uncaria guianensis (Aubl.) Gmel. Syst. Veg. 1: 370. 1796. *Ourouparia guianensis* Aubl. Pl. Guian. 177. *pl. 168.* 1775.

Brazil: Santa Cruz da Barra, Matto Grosso, in dumetis ripae fluvii Paraguay, March, 1894, *C. A. M. Lindman A3155* (Herb. Stockholm).

Alseis involuta Schum. in Mart. Fl. Bras. 6^6: 189. 1889.

Brazil: Catinga bei Calderão, State of Bahia, October, 1906, *Ule 7268* (Herb. Kew.). The species is easily recognized by its subcapitate rather than elongate-spicate inflorescence. It seems to be of rare occurrence.

Manettia minutiflora, sp. nov.—Scandens, caulibus gracilibus teretibus fuscis dense minuteque retrorso-pilosulis, internodiis elongatis; stipulae brevissimae connatae, vagina truncata puberula breviter apiculata et setuloso-ciliata; folia petiolata opposita crasse membranacea, petiolo 5–7 mm. longo dense minute pilosulo; lamina ovato-oblonga vel anguste elliptico-oblonga 4–7.5 cm. longa 1.5–3 cm. lata longe acuminata, acumine angusto attenuato, basi acuta vel acutiuscula, supra in sicco fusca, sparse et minutissime hispidula, venis vix prominulis, subtus fere concolor, lucidula, densiuscule et minute pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 4 angulo acuto adscendentibus gracillimis prominulis arcuatis remote a margine conjunctis, nervulis prominulis arctissime reticulatis; flores minuti in cymas vel paniculas parvas paucifloras laxas axillares et terminales dispositi, bracteis parvis, pedicellis crassis plerumque 3–5 mm. longis rectis dense pilosulis; hypanthium anguste obovoideum 2 mm. longum basi acutiusculum dense pilosulum; calyx 4-partitus, lobis 4 late ovatis vel rotundatis c. 2 mm. longis et plerumque aequilatis patentibus vel recurvis apice rotundatis usque ad acutis, dense puberulis, marginibus vulgo revolutis; corolla hypocrateriformis extus glabra, tubo crasso 3–4 mm. longo intus supra basin villoso, fauce non barbato, lobis 4 late ovatis vel subrotundatis 2–2.5 mm. longis patentibus apice rotundatis intus ad margines breviter villosulis aliter glabris; antherae inclusae; stylus gracilis glaber breviter exsertus; capsula immatura oblongo-ellipsoidea 6 mm. longa, 4 mm. lata, sparse puberula, basi subrotundata, calyce persistente coronata.—Brazil: State of Minas Geraes, 1816–21, *Auguste de Saint-Hilaire 718* (Herb. Paris, type), *980* (Herb. Paris).

In its small flowers and in the form of the corolla, the plant approaches *Manettia alba* (Aubl.) Wernham, of the Guianas, but that species differs in its relatively narrow calyx segments.

Manettia tomantha, sp. nov.—Frutex scandens, caulibus subteretibus vel subangulatis gracilibus olivaceis dense puberulis, internodiis plerumque elongatis; stipulae in vaginam 1.5 mm. longam olivaceam vel pallidam truncatam vel breviter mucronatam puber-

ulam connatae erectae; folia petiolata opposita crasse membranacea, petiolo gracili 5–12 mm. longo dense puberulo; lamina ovata vel ovato-elliptica, interdum rotundato-ovata, 2.5–7 cm. longa, 1.3–3.8 cm. lata, abrupte acuta vel acuminata, interdum longe acuminata, basi rotundata usque ad acuta, interdum abrupte contracta et decurrens, supra olivacea, sublucida, dense puberula vel pilosula, asperula, venis prominentibus et reticulatis, subtus paullo pallidior, densissime puberula vel minute pilosula, mollis, costa gracili elevata, nervis lateralibus utroque latere c. 5 angulo acuto adscendentibus prominentibus gracilibus arcuatis prope marginem conjunctis, nervulis prominulis laxe reticulatis; flores plerumque axillares et solitarii longe pedunculati, pedunculo vulgo 2–4 cm. longo puberulo prope medium bracteis 2 foliaceis magnis usque ad 1.3 cm. longis saepe fere orbicularibus onusto; hypanthium late obovoideum 2.5–3 mm. longum dense puberulum basi acutum; calyx basi in tubum 1 mm. longum connatus extus dense sordido-puberulus, laciniis 4 lineari-attenuatis 3–3.5 mm. longis erectis; corolla tubulosa 6.5–9 mm. longa extus glabra subtruncata vel brevissime lobata, supra paullo dilatato, limbo 3–3.5 mm. lato, tubo intus supra basin densissime albo-villoso; stylus glaber interdum exsertus.—Brazil: Goyaz, April, 1844, *H. A. Weddell 2667* (Herb. Paris, type).

The plant represents a well-marked species, distinguished by the very short corolla lobes and short-tubular calyx. The foliage, also, is characteristic.

Manettia campanulacea, sp. nov.—Scandens, caulibus gracilibus viridibus conspicue 4-alatis, alis tenuibus usque ad 1 mm. latis ciliatis, internodiis brevibus vel elongatis; stipulae in vaginam truncatam 2 mm. longam connatae; folia petiolata opposita tenuiter membranacea, petiolo gracillimo 5–13 mm. longo ciliato vel glabrato; lamina ovata vel elliptico-ovata 3–6 cm. longa 1.2–3 cm. lata acuminata vel abrupte acuminata, basi acuta vel late obtusa et subito contracta, supra viridis, prope marginem minute pilosula, aliter glabra, venis manifestis sed vix prominulis, subtus pallidior, glabra, costa gracili vix elevata, nervis lateralibus utroque latere c. 6 angulo acuto adscendentibus gracillimis vix prominulis arcuatis, nervulis obscuris vel obsoletis; flores axillares solitarii, pedicellis gracilibus 1–3 cm. longis ebracteatis glabris; hypanthium anguste clavatum 5 mm. longum versus basin longe attenuatum sparse pilosulum vel glabrum; calyx 4-partitus, laciniis 4 anguste lineari-attenuatis 8–15 mm. longis viridibus sparse ciliolatis adscendentibus; corolla 16 mm. longa tubuloso-infundibuliformis extus praesertim prope basin sparse breviterque villosula, tubo crasso prope basin paullo dilatato, intus supra basin dense villoso, ad medium 2 mm. lato, supra medium sensim dilatato, ore 4 mm. lato, lobis 4 adscendentibus 2.5 mm. longis late ovatis acutiusculis; antherae tubi medium vix superantes oblongae 3 mm. longae.—Brazil: São Gabriel, State of Minas Geraes, 1816–21, *Auguste de Saint-Hilaire* (Herb. Paris, type).

Following Wernham's key to the species of *Manettia,* the present plant runs at once to *M. dominicensis* Wernham, a species of the Lesser Antilles with similar but much shorter calyx lobes.

Manettia verticillata Wernham, Gen. Manettia 34. 1919.

Brazil: Itatiaia, in 1918, *P. Campos Porto 15442* (Herb. Berol.).

Manettia paulina, sp. nov.—Frutex scandens, caulibus gracillimis teretibus pallide olivaceis dense minutissime puberulis, internodiis elongatis; stipulae c. 1 mm. longae breviter apiculatae, margine dense glanduloso-denticulato; folia petiolata opposita membranacea, petiolo gracili 5–7 mm. longo puberulo; lamina oblongo-lanceolata vel ovato-oblonga 2.5–6 cm. longa 1–2.5 cm. lata longe sensimque acuminata, acumine acuto, basi obtusa, supra in sicco fusco-viridis, sublucida, minute sparsissime puberula vel fere omnino glabra, venis prominulis, subtus fere concolor, sparse et minutissime puberula vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 5 angulo lato adscendentibus prominentibus gracilibus arcuatis prope marginem conjunctis, nervulis prominulis arcte reticulatis, margine plano; flores axillares solitarii longissime pedunculati, pedunculo gracili 1.5–4 cm. longo puberulo prope medium bibracteato, bracteis foliis conformibus plerumque 5–8 mm. longis; hypanthium late obovoideum 2.5 mm. longum basi acutum dense puberulum; calyx 4-partitus, lobis foliaceis viridibus late ovato-triangularibus 3.5–5 mm. longis et fere aequilatis acutis vel obtusiusculis minute puberulis; corolla magna clavata extus sparse puberula c. 4 cm. longa, tubo prope basin 2 mm. lato supra sensim dilatato ore 5–6 mm. lato, lobis 4 late ovato-rotundatis 2–3 mm. longis erectis; antherae pallidae semiexsertae.—Brazil: State of São Paulo, 1816–21, *Auguste de Saint-Hilaire 1229* (Herb. Paris, type).

In Wernham's key to the species of *Manettia,* this plant runs to *M. angustifolia* Wernham, a species of Paraguay with much narrower leaves, narrow calyx lobes, and a shorter corolla.

Manettia quinquenervia Sprague, Bull. Herb. Boiss. II. 5: 266. 1905.

The type of this rather well-marked species was collected in the State of Santa Catharina, Brazil, *Fritz Mueller 122,* and no other specimens are cited by Wernham in his account of the genus *Manettia.* The following Brazilian specimens recently examined, all of them in the Stockholm herbarium, seem to be referable to *M. quinquenervia:*

Paraná: Volta Grande, Serra do Mar, in fruticetis, 400 m., *Dusén 9904, 8622.* Serra do Mar, Ypiranga ad marginem viae ferreae, *Dusén 3487.* Ponta Grossa, in fruticetis, 880 m., *Dusén 9911;* in silvula, 880 m., *Dusén 7522.* Jaguariahyba, in fruticetis, *Dusén 304a.*—Santa Catharina: Itayahy, ad marginem silvae primaevae, *Dusén 8401.*

The collections cited show unusual variation in the form of the calyx lobes, which vary from oblong to subulate, but all the specimens appear to be conspecific.

Manettia Burchellii Wernham, Gen. Manettia 18. 1919.

The species was based by Wernham upon a single specimen, *Burchell 4855* from Rancho do Feliz, Brazil. One additional collection has come to the attention of the writer: Brazil: Province of São Paulo, 1816–21, *Auguste de Saint-Hilaire 703* (Herb. Paris).

Manettia verticillata Wernham, Gen. Manettia 34. 1919.

Brazil: Prov. Minas Geraes, 1816–21, *Auguste de Saint-Hilaire 1060* (Herb. Paris).

Manettia parvula Schum. ex Glaziou, Bull. Soc. Bot. France 56: Mém. 3: 336. 1909, nomen; Wernham, Gen. Manettia 26. 1919.

Brazil: Prov. Minas Geraes, 1816–21, *Auguste de Saint-Hilaire 2466* (Herb. Paris).

Manettia Hoehnei, sp. nov.—Herbacea volubilis, caulibus gracilibus subteretibus fuscis glabris, internodiis plerumque foliis brevioribus, rarius longioribus; stipulae in vaginam subincrassatam glabram c. 1 mm. longam connatae, parte libera aequilonga triangulari-oblonga erecta; folia subcarnosa in sicco tenuiter coriacea mediocria petiolata opposita, petiolo 4–10 mm. longo glabro; lamina ovata, ovato-oblonga vel late ovato-elliptica, 2–5 cm. longa, 1–3.5 cm. lata, acuta vel acuminata, interdum abrupte acuta, basi rotundata vel obtusa, rare acuta, glabra, supra in sicco fusca vel luteo-viridis, venis subimpressis, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere c. 4 prominulis angulo acuto adscendentibus arcuatis, nervulis occultis, marginibus interdum subrevolutis; inflorescentiae axillares pauciflorae vel rarius multiflorae breviter racemosae vel subumbellatae foliis vulgo breviores, pedicellis crassiusculis plerumque rectis c. 1 cm. longis glabris vel saepe sparse puberulis vel breviter pilosiusculis; hypanthium glabrum vel sparse puberulum 2 mm. longum obovoideum basi acutiusculum; calyx 4-partitus glaber, laciniis c. 2 mm. longis ovatis vel late ovatis obtusis vel acutiusculis patentibus vel subreflexis post anthesin paullo accrescentibus; corolla alba apice rubra extus glabra tubo gracili cylindraceo 8–9 mm. longo 1.2 mm. crasso, lobis 4 suberectis 1.5 mm. longis triangulari-ovatis acutiusculis; capsula subglobosa c. 4 mm. longa et 5 mm. lata glabra tenuiter costata apice truncata vel late truncata, basi abrupte contracta.—Brazil (State of São Paulo): Alto da Serra, March 4, 1918, *F. C. Hoehne 1599* (Herb. Berol., type). Alto da Serra, April 19, 1918, *Hoehne 1818* (Herb. Berol.). São Bernardo, August, 1895, *Gustavo Edwall 11437* (Herv. Comm. Geogr. de S. Paulo No. 3095; herb. Berol.). Serra da Cantareira, 400 m., June, 1913, *Tamandaré & Brade 7450* (Herb. Berol.).

It is rather strange that a plant apparently so common as this, or at least represented by so many collections, should not have come to the attention of Wernham, when he was preparing his account of the genus *Manettia*. It can not be traced in his key to any Brazilian species with which the specimens may be associated, nor does it agree with any of the described Brazilian species, material of almost all of which is available for comparison.

Manettia Bradei, sp. nov.—Herba volubilis, caulibus gracillimis subteretibus dense pilis brevibus pallidis patentibus vel plerumque reflexis pilosulis, internodiis foliis brevioribus vel longioribus; stipulae minutae in vaginam subtruncatam dense puberulam connatae; folia membranacea breviter petiolata opposita, petiolo gracili 2–3 mm. longo dense albido-pilosulo vel subtomentoso; lamina anguste elliptico-oblonga vel ovato-oblonga 3–6 cm. longa 1–1.8 cm. lata acuta vel breviter acuminata basi acuta, supra asperula viridis dense pilis brevissimis subadpressis pallidis pilosula, subtus paullo pallidior, mollis, dense pilis breviusculis patentibus vel subadpressis pilosula vel fere tomentulosa, costa gracili elevata, nervis lateralibus utroque latere c. 4 angulo angusto adscendentibus subarcuatis prominulis gracilibus, nervulis obscuris; flores axillares solitarii mediocres, pedicellis crassiusculis 2–7 mm. longis dense albido-villosulis; hypanthium obovoideum c. 2.5 mm. longum dense albo-tomentosum basi acutiusculum; calyx 4-partitus, laciniis latissime ovatis c. 3 mm. longis et 2.5 mm. latis breviter petiolulatis acutis utrinque dense pilosulis; corolla rubra tubulosa 17 mm. longa 2–2.5 mm. crassa, extus densissime pilis brevibus pluricellularibus villosa, lobis 4 luteis rotundato-ovatis obtusis 2 mm. longis suberectis.—Brazil: São Paulo, Serra da Cantareira, in thickets, December, 1911, *Alex. Curt Brade 5281* (Herb. Stockholm, type).

A relative of *Manettia Riedelii* Wernham, described from the state of Rio de Janeiro. That species differs in its shorter corolla with larger lobes.

Manettia pedunculata (Spreng.) Schum., var. **glabra** Wernham, Gen. Manettia 22. 1919.

The glabrous variety of *M. pedunculata* was based upon a single specimen, *Miers 3310*, from foot of the Gavea, Rio de Janeiro. Two additional collections, one of them from the type locality, may be reported: Brazil: Lower half of the Gavea, Rio de Janeiro, February, 1897, *Ule 4262* (Herb. Berol.). Itatiaia, 1,050 m., May, 1918, *P. Campos Porto 15441* (Herb. Berol.).

Manettia Samuelssoniana, sp. nov.—Herbacea volubilis, caulibus gracillimis viridibus subangulatis retrorso-pilosulis et plus minusve puberulis, internodiis saepe foliis longioribus; stipulae persistentes in vaginam pallidam puberulam 1.5 mm. longam con-

natae, parte libera aequilonga ovato-triangulari reflexa acutiuscula apice setuloso-denticulata; folia longe petiolata opposita membranacea, petiolo gracili 8–15 mm. longo pilosulo; lamina ovato-lanceolata vel oblongo-ovata 3–5.5 cm. longa 1–2 cm. lata longe attenuato-acuminata, basi acuta vel saepe abrupte contracta et decurrens, supra laete viridis, sparse puberula vel pilosula, subtus pallidior, ubique satis dense pilis brevibus pallidis subadpressis pilosula, costa gracillima prominula, nervis lateralibus utroque latere 3–4 gracillimis angulo acuto adscendentibus arcuatis; flores solitarii magni, pedicellis gracilibus 2–3.5 cm. longis dense pilis patentibus vel adscendentibus pilosulis; hypanthium late clavatum fere 5 mm. longum basin versus longe attenuatum dense pilosum; calyx ad basin 4-partitus, laciniis distincte breviterque petiolulatis foliaceis viridibus lanceolatis vel anguste oblongo-lanceolatis plerumque 8–11 mm. longis longe attenuatis utrinque dense pilosulis patentibus vel saepius subrecurvis; corolla tubulosa basi vix vel non inflata 2 cm. longa 4–5 mm. lata, ubique densissime pilis longis pluricellularibus patentibus villosa, lobis 4 ovato-rotundatis 3 mm. longis obtusis erectis.—Argentina: Misiones, in distr. urb. Posadas, praecipue in vicin. coloniae Bonpland, *W. Lillieskold* (Herb. Stockholm, type).

The Argentine plant is a relative of *M. luteo-rubra* Benth., of Brazil, and *M. Rojasiana* Chod. & Hassl., of Paraguay. The former is distinguished by non-foliaceous calyx segments and by more abundant pubescence, as well as by the short hairs of the corolla. *M. Rojasiana* differs in having a corolla that is swollen above the middle and narrowed toward the apex; also in its broad sessile calyx segments.

The species is named for Dr. Gunnar Samuelsson, of the State Museum of Stockholm, to whom the writer is greatly indebted for the generous loan of a large amount of South American material of the Rubiaceae.

Manettia paranensis, sp. nov.—Herba volubilis, caulibus gracilibus fusco-olivaceis densiuscule pilis brevibus patentibus sordidis pilosulis, internodiis elongatis; stipulae 1–1.5 mm. longae triangulari-subulatae erectae subadpressae puberulae persistentes; folia petiolata opposita, petiolo gracili 5–13 mm. longo minute pilosulo; lamina ovata membranacea 3–5.5 cm. longa, 1.2–3 cm. lata, sensim vel abrupte acuminata, acumine attenuato acutissimo, basi obtusa vel rotundata, interdum abrupte contracta et brevissime decurrens, fere concolor, supra sparse hispidula vel glabrata, costa venisque prominulis, subtus sparse subadpresso-hispidula vel scaberula, costa gracili elevata, nervis lateralibus utroque latere c. 5 prominulis angulo acuto adscendentibus arcuatis remote a margine conjunctis, nervulis obscuris; flores in axillis foliorum reductorum solitarii subracemose dispositi, vel interdum terminales et solitarii, pedun-

culis plerumque 1–3 cm. longis minute pilosulis prope medium foliaceo-bibracteolatis; hypanthium obovoideum 2 mm. longum glabrum vel sparse puberulum; calyx 4-partitus, laciniis viridibus foliaceis 7–11 mm. longis et 5–6 mm. latis, late ovatis vel ellipticis, acutis vel acuminatis, basi angustatis, glabris vel glabratis; corolla ut videtur coccinea extus glabra 3.5–4.3 cm. longa tubuloso-infundibuliformis, e basi angusta versus orem sensim dilatata, supra 1 cm. lata, lobis rotundato-ovatis erectis 8 mm. longis et aequilatis obtusis vel acutiusculis.—Brazil: Serra do Mar, State of Paraná, Caiguava, haud procul a Carvalho aquaeductu, alt. 1,950 m., November 19, 1909, *P. Dusén 8964* (Stockholm herb., type). Serra do Mar, Monte Alegre, in silva primaeva, 1,000 m., November 23, 1909, *Dusén 9007* (Stockholm).

The plant belongs in the group of *M. cordifolia* Mart., the species to which it was referred by the collector. It is sufficiently distinct from that species, however, in the very large and broad calyx segments, whose form is not approached by any specimens of *M. cordifolia* that I have seen. In Wernham's key to the species of *Manettia*, *M. paranensis* runs directly to *M. stipulosa* Wernham, which is based on a specimen collected in Brazil by Gardner. I have seen no material of *M. stipulosa*, but according to description it differs from the present plant in having glabrous leaves, much larger stipules, and much narrower calyx lobes.

Manettia Schunkei Standl. Field Mus. Bot. 4: 273. 1929.

Several additional specimens of this recently described Peruvian species are now at hand, and deserve citation here: Peru: Chanchamayo Valley, 1,200–1,500 m., in March and April, 1929, *Carlos Schunke 1444, 1461, 1428.*

Manettia poliodes Standl. Field Mus. Bot. 8: 151. 1930.

An additional collection of this species has appeared among material received recently on loan from Berlin: Peru: Valle de Apúrimac, alrededores del pueblo de Mollepata, 2,750 m., December, 1926, *F. L. Herrera 1230.*

Manettia asclepiadacea, sp. nov.—Herbacea volubilis, caulibus gracilibus olivaceis ad angulos retrorso-pilosulis, internodiis valde elongatis; stipulae latissimae et brevissimae ad margines breviter setuloso-pectinatae; folia petiolata opposita, petiolo gracili 1–1.5 cm. longo sparse minute pilosulo; lamina membranacea elliptica 10–13 cm. longa, 4.5–5.5 cm. lata, abrupte longiacuminata, acumine anguste triangulari longe attenuato, basi acuta, glabra, supra viridis, costa venisque manifestis sed vix elevatis, subtus pallida, minutissime pallido-puncticulata, costa crassiuscula vix elevata, nervis lateralibus utroque latere c. 6 obscuris arcuatis, nervulis obsoletis; inflorescentiae

axillares subsessiles umbelliformes, multiflorae, pedicellis crassiusculis 5–9 mm. longis puberulis; hypanthium obovoideum 5 mm. longum dense pilosulum; calyx 4-partitus, laciniis c. 8 mm. longis, fructiferis usque ad 10 mm. et ultra, lanceolatis vel anguste ovatis acuminatis crassiusculis puberulis ciliatis adscendentibus viridibus; corolla breviter densiuscule albido-pilosula, tubo 12 mm. longo supra paullo dilatato albo fauce 2.5 mm. lato, lobis luteis ad apices purpureis anguste lanceolato-oblongis 4.5 mm. longis acutiusculis; antherae albae; capsula immatura obovoidea 8 mm. longa basi acuta vel attenuata sparse pilosula.—Peru: In dense forest, San Antonio, on Río Itaya, Dept. Loreto, alt. 110 m., September 18, 1929, *E. P. Killip and A. C. Smith 29476* (Herb. Field Mus. No. 613,724, type).

In general appearance as well as in details of the flowers the plant is similar to *Manettia tarapotensis* Wernham, but in that there are eight rather than four calyx lobes.

Lecanosperma lycioides Rusby, Bull. Torrey Club 20: 431. *pl. 168*. 1893.

The following collections of this rather common plant probably are older than any of those cited previously: Bolivia: Without locality, in 1839, *Pentland 34* (Herb. Paris). Prov. Yunquisivi, December, 1846, *Weddell 4186* (Herb. Paris). Near Chaquilaca (?), *D'Orbigny 1189* (Herb. Paris).

Bouvardia dictyoneura Standl. N. Amer. Fl. 32: 109. 1921.

The species has been known only from the type, collected in Chiapas, Mexico. A Central American collection may now be reported: Guatemala: Volcán de Atitlán, 2,700 m., January, 1874, *Salvin* (Herb. Kew.). In the Guatemalan specimen the leaves are sparsely hispidulous beneath, rather than glabrous as in the type, but in all other characters it seems to agree with the Mexican material.

Bouvardia Rekoi Standl. N. Amer. Fl. 32: 108. 1921.

This Mexican species has been known previously only from the type, collected in Mexico. One additional collection may now be reported: Mexico: Forests near Arúmbaro, *Ghiesbreght 360* (Herb. Paris). A shrub 1.5–1.8 m. high; corolla orange-red.

Bouvardia villosa Standl. N. Amer. Fl. 32: 107. 1921.

Known heretofore only from *Conzatti & Vásquez 1486*, from Oaxaca, Mexico. A single additional collection has come to the attention of the writer: Oaxaca: Without definite locality, in 1834, *Andrieux* (Herb. Paris).

Bouvardia orizabensis, sp. nov.—Frutex parce ramosus, ramis vetustioribus subteretibus vel obtuse tetragonis ochraceis, novellis in sicco fuscis glabris, internodiis foliis paullo brevioribus; stipulae persistentes erectae basi in vaginam brevem connatae 4–5 mm. longae glabrae vel obscure puberulae, parte libera anguste triangulari abrupte attenuata; folia plerumque ternata breviter petiolata membranacea, petiolo gracili 2–4 mm. longo glabro; lamina anguste lanceolata vel oblongo-lanceolata 4.5–7.5 cm. longa 1.5–2.8 cm. lata, longe angusteque attenuato-acuminata, basi acuta vel obtusa, in sicco fusca, glabra, supra interdum sublucida, venis non elevatis, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere 5–6 angulo acutissimo adscendentibus gracillimis prominulis; flores ad apices ramulorum cymosi, cymis sessilibus foliaceo-bracteatis pauci- vel multifloris densis, ramis densiuscule puberulis vel glabris, pedicellis plerumque 1–3 mm. longis, floribus interdum sessilibus; hypanthium hemisphaericum 1.5 mm. longum basi rotundatum glabrum vel obscure puberulum; calyx 4-partitus, laciniis 2.5–3 mm. longis erectis triangulari-linearibus longe attenuatis glabris vel glabratis viridibus; corolla gracilis extus glabra, tubo 14–17 mm. longo supra paullo sensimque dilatato ore 3 mm. lato intus supra basin dense villoso, lobis 4 late ovatis 3–4 mm. longis acutiusculis intus glabris suberectis; antherae anguste oblongae inclusae; stylus gracilis glaber interdum exsertus; capsula didyma c. 6 mm. longa et 7–8 mm. lata glabra; semina numerosa c. 2 mm. lata fusco-ferruginea late alata compressa.—Mexico: Orizaba, Veracruz, September, 1854, *M. Botteri 604* (Herb. Paris, type). Orizaba, *Botteri* (Herb. Paris). Wartenberg, near Tantoyuca, Prov. Huasteca, in 1858, *Ervendberg 105* (Herb. Paris).

It is surprising that a plant so well marked as this has not come to light in the ample *Bouvardia* material of American herbaria which has been examined at one time or another by the writer. If any specimens have been seen, their distinguishing characters were overlooked. *Bouvardia orizabensis* is related clearly to *B. bouvardioides* (Seem.) Standl., of the mountains of western Mexico. In that species the branchlets are pruinose-puberulent, and the stipules are united into a pluriaristate sheath.

Cinchona amazonica, sp. nov.—Arbor mediocris, ramulis crassiusculis subcompressis et obtuse quadrangulatis fusco-brunneis dense minutissime sericeis; stipulae caducae, non visae; folia petiolata opposita, petiolo 1.5–3 cm. longo gracili minute sericeo vel glabrato; lamina crasse membranacea obovato-elliptica 15–25 cm. longa, 7.5–12 cm. lata, apice obtusa vel subacuta abrupte breviterque acuminata, acumine anguste triangulari attenuato, basin versus longe angustata, supra viridis, costa venisque prominulis, glabra, subtus paullo pallidior, sparse et minutissime sericea vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 13 obliquis angulo circa semirecto adscendentibus gracilibus prominentibus fere rectis

prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis maxima late paniculata laxe multiflora sessilis c. 30 cm. longa et 35 cm. lata, basi trichotoma, supra copiose ramosa, ramis oppositis divaricatis dense puberulis vel sericeis, bracteis linearibus vel lineari-subulatis usque ad 1.5 cm. longis longe attenuatis extus dense sericeis, floribus in cymulas parvas densas aggregatis plerumque sessilibus; hypanthium turbinatum 1.5 mm. longum dense minute sericeum basi acutum, calyce 5-partito, laciniis 1.5–2 mm. longis extus minute sericeis lineari-attenuatis vel angustissime triangulari-lanceolatis erectis; corolla 3.5–4 mm. longa extus minute denseque tomentella in alabastro obtusa, tubo cylindraceo, lobis 5 oblongis obtusis tubum aequantibus patentibus intus dense albo-villosis.—Peru: Pebas, on the Amazon River, Dept. Loreto, in forest, July 24, 1929, *Llewelyn Williams 1747* (Herb. Field Mus. No. 604,562, type).

It certainly is not advisable to describe further species in the genus *Cinchona*, in which already there have been described so many, although but few of them can be maintained on characters that would be considered significant in other groups of the Rubiaceae. I do not know that the present plant is more worthy of specific rank than most of the other species already described, but it does seem to be recognizable, so far as the single specimen is concerned, and does not match any of the numerous species of which photographs or specimens are available for comparison. In the extremely small size of its flowers *Cinchona amazonica* resembles *C. micrantha* R. & P., but in that the calyx lobes or teeth are very short and broadly triangular.

Macrocnemum latilimbum Standl. Field Mus. Bot. 8: 154. 1930.

A second collection of this species may be reported: Colombia: Forest near Santa Ana, Prov. Mariquita, February, 1843, *J. Linden 1165* (Herb. Paris). "Flowers pink."

Remijia longifolia Benth. in herb., sp. nov.—Arbuscula 4.5–6 m. alta, ramulis crassis obtuse trigonis dense hirsutis et pilosis; stipulae coriaceae lanceolato-oblongae 8 cm. longae longe attenuatae dense hirsutae et pilosae erectae; folia petiolata coriacea ternata, petiolo crasso c. 5 cm. longo dense hirsuto; lamina oblanceolato-oblonga c. 33 cm. longa et 11.5 cm. lata apice acuta et abrupte caudato-cuspidata, basin versus longe sensim angustata, supra in sicco fusca sparse hirsuta, venis impressis, subtus densiuscule pilis plerumque patentibus fulvis hispido-hirsuta, costa crassa elevata, nervis lateralibus utroque latere c. 17 angulo semirecto vel paullo latiore adscendentibus gracilibus elevatis leviter arcuatis vel fere rectis marginem attingentibus, nervulis non elevatis arcte reticulatis; inflorescentiae axillares 20 cm. longe pedunculatae subspiciformes et c. 20 cm.

longae, e verticillis paucis cymarum remotis composita, rhachi breviter dense pilosa et sparse hirsuta, cymis parvis pauci- vel multifloris densis brevissime pedunculatis, infimis usque ad 1.5 cm. longe pedunculatis, bracteis brevibus ovatis acutis vel acuminatis strigosis, floribus sessilibus; hypanthium 3 mm. longum globoso-oblongum densissime pilis fulvis vel subferrugineis subadpressis pilosum basi obtusum; calyx 2.5 mm. longus extus subadpresso-hispidulus primo truncatus et remote minutissime denticulatus, in anthesi inaequaliter fissus; corolla extus densissime sericeo-pilosa, tubo crasso 10 mm. longo supra vix dilatato, lobis 5 crassis 5.5–6 mm. longis anguste oblongis obtusis intus glabris; stamina inclusa infra medium tubi inserta, antheris anguste oblongis vel linearibus; stylus brevis, lobis oblongo-linearibus; capsula oblonga 2–4 cm. longa fusco-ferruginea c. 13 mm. lata, basi acuta, glabrata; semina numerosa brunnescentia c. 1.5 cm. longa lucida, parte centrali 3–4 mm. longa ala tenui lata cincta.—Brazil: Ad Panuré, in silvis humilioribus, December, 1852, *R. Spruce 2855* (Herb. Kew., type).

Related to *Remijia firmula* (Mart.) Wedd., which has a pyriform capsule only 1 cm. long and stipules only 3 cm. in length. The specimen is ample and complete, but Spruce's notes read: "Fragment, but the ants plaster up the flower buds."

Ladenbergia Pittieri Standl. Field Mus. Bot. 8: 51. 1930.

This species, described from the mountains of Venezuela, may now be recorded from Colombia: Prov. Ocaña, 1,500 m., July, 1846–52, in flower, *L. Schlim 691* (Herb. Paris). Flowers white.

Ladenbergia macrocarpa (Vahl) Klotzsch in Hayne, Arzneigew. 14: sub *pl. 15.* 1846. *Cinchona macrocarpa* Vahl, Skrivt. Naturh. Selsk. 1: 20. 1790.

Colombia: Highlands of Santa Rosa, Antioquía, 1,800–2,500 m., *Lehmann 7432.* Upper Río Guatepe, between Medellín and Nare, Dept. Antioquía, *Kalbreyer 1443* (Herb. Berol., Herb. Kew.); a shrub or small tree 8–14 m. high; leaves thick, stiff, leathery, lustrous; flowers white, very fragrant; in forest in open sunny places.

Ladenbergia ferruginea, sp. nov.—Frutex 4-metralis, ramulis gracilibus obtuse tetragonis densiuscule pilis ferrugineis rigidiusculis patentibus hispidulo-pilosis, internodiis elongatis; stipulae caducae, non visae; folia petiolata opposita subcoriacea, petiolo gracili 1.5–3 cm. longo ferrugineo-piloso; lamina oblongo-elliptica vel lanceolato-oblonga 14–25 cm. longa 5.5–9 cm. lata acuta vel breviter acuminata, acumine acutiusculo, basi acuta vel basin versus longius angustata, supra in sicco fusca, glabra vel primo ad costam ferrugineo-villosa, venis non elevatis, subtus fusco-ferruginea, praesertim ad venas ferrugineo-pilosa vel subtomentosa, costa gracili elevata, nervis lateralibus utroque latere c. 16 angulo lato abeuntibus prominentibus gracilibus fere rectis juxta marginem conjunctis, nervulis obscuris laxe reticulatis; inflorescentia terminalis cymoso-paniculata 6–7 cm.

longe pedunculata, basi trichotoma, 10–12 cm. longa et fere aequilata, ramis crassiusculis adscendentibus, infimis 3–5 cm. longis dense ferrugineo-tomentosis, cymis densis multifloris c. 3 cm. latis, bracteis lineari-subulatis extus tomentosis pedicellis aequilongis, pedicellis plerumque 2–3 mm. longis crassis; hypanthium oblongo-obovoideum 2.5–3 mm. longum dense ferrugineo-pilosum; calyx tubuloso-campanulatus 3.5 mm. longus sparse ferrugineo-pilosus brevissime dentatus, dentibus triangularibus vel latissime depresso-triangularibus acutis vel apiculatis; corolla alba extus dense adpresso-pilosa et obscure tomentella, tubo gracili 10–12 mm. longo supra vix dilatato, lobis 6–7 mm. longis anguste lanceolatis patentibus attenuatis extus dense strigosis, intus glabratis sed prope margines pilis apicem versus inflatis minutis puberulis; antherae inclusae; stylus inclusus.—Peru: Chunchusmayo, Prov. Sandía, Dept. Puno, in forest near the river, alt. 900 m., June 13, 1902, *A. Weberbauer 1175* (Herb. Berol., type).

Distinguished from other Peruvian species by the abundant rust-colored pubescence.

Capirona decorticans Spruce, Journ. Linn. Soc. 3: 200. 1859.

Colombia: Llano de San Martín, Prov. Bogotá, 210 m., *Triana 1791* (Herb. Paris).

Ferdinandusa loretensis, sp. nov.—Arbor 6-metralis, ramulis crassiusculis subteretibus ferrugineis sparse puberulis vel glabratis; stipulae non visae; folia breviter petiolata opposita crasse coriacea, petiolo crasso 8–14 mm. longo ferrugineo-puberulo vel glabrato; lamina oblongo-elliptica 10.5–15 cm. longa 6–7 cm. lata abrupte breviterque acuminata, acumine triangulari obtuso, basi rotundata vel abrupte breviterque contracta, supra in sicco fusca, lucida, glabra, venis non elevatis, subtus fusco-brunnescens, ubique densiuscule pilis brevissimis subadpressis hispidula vel serius glabrata, costa crassa elevata, nervis lateralibus utroque latere c. 10 angulo semirecto adscendentibus elevatis gracilibus fere rectis in marginem desinentibus, nervulis transversis prominentibus distantibus irregularibus subparallelis; inflorescentia terminalis cymoso-paniculata parva pauciflora breviter pedunculata, ramis crassis glabris vel sparse puberulis, pedicellis crassis usque ad 6 mm. longis fere glabris, bracteis deciduis; hypanthium anguste turbinatum 2 mm. longum basin versus attenuatum glabrum; calyx c. 1.5 mm. longus et 3.5 mm. latus glaber breviter 4-dentatus, dentibus minutis remotis triangularibus acutis erectis; corolla alba glabra, tubo gracili 3–4.5 cm. longo supra vix vel non dilatato 2.5–3 mm. crasso fauce glabro, lobis 4 patentibus asymmetricis 8–10 mm. longis intus glabris; antherae breviter exsertae 2 mm. longae curvatae; stylus gracilis glaber c. 1 cm. longe exsertus, stigmate bilobo, lamellis ovalibus c. 2 mm. longis; capsula oblanceolato-oblonga c. 3.8 cm. longa et 1.4 cm. lata glabra fusco-ferruginea, apice rotundata, basin versus longe attenuata; discus crassus annuliformis calyce multo brevior.—

Peru: Mishuyacu, near Iquitos, Dept. Loreto, in forest, altitude about 100 m., May–June, 1930, *G. Klug 1348* (Herb. Field Mus. No. 622,213, type).

The material available is rather fragmentary and unsatisfactory, but it is complete so far as flowers and fruit are concerned. The plant is well distinguished from the related species by the unusually long and slender corolla tube, and by the characteristic pubescence of the lower leaf surface.

Hillia Goudotii, sp. nov.—Omnino glabra, ramulis crassis subteretibus pallide ferrugineis, internodiis elongatis; stipulae caducae, non visae; folia breviter petiolata opposita crasse coriacea, petiolo crassiusculo 0.8–2.5 cm. longo; lamina ovata, elliptico-ovata vel oblongo-elliptica 14–20 cm. longa 5–8 cm. lata subabrupte longiacuminata, acumine angusto attenuato, basi acuta vel interdum subobtusa et abrupte breviterque contracta, in sicco fusca, subtus fere concolor, nervis obscuris, lateralibus utroque latere c. 6 angulo acutissimo adscendentibus; flores ad apicem rami terni c. 6 mm. longe pedicellati, pedicellis crassiusculis; hypanthium oblongum c. 1 cm. longum 4 mm. latum basi acutum; calyx 6-partitus, laciniis viridibus oblongo-linearibus 2.5–3 cm. longis 3–5 mm. latis longe attenuatis erectis; corolla gracilis infundibuliformis, tubo 4–4.5 cm. longo medio 1.5–2 mm. lato supra abrupte dilatato ore 1 cm. lato, lobis 6 ovato-rotundatis c. 6 mm. longis apice rotundatis; antherae inclusae lineares 9 mm. longae; capsula cylindracea 9 cm. longa extus fusca, valvis post dehiscentiam 1.8 cm. latis, basi et apice acuta; semina numerosissima parva cum coma c. 1 cm. longa.—Colombia: Río Sucio, Cauca Valley, January, 1844, *Justin Goudot* (Herb. Paris, type).

The Colombian plant is a relative of *Hillia illustris* (Vell.) Schum., which ranges rather widely in South America. The latter differs in its solitary flowers with shorter calyx segments and stouter, usually larger corolla.

Exostema Leonis, sp. nov.—Frutex ramosus 3–4-metralis, ramulis crassiusculis, vetustioribus subteretibus, fuscis, novellis pilulis minutis subadpressis indutis; stipulae intrapetiolares, 3 mm. longae, basi brevissime vaginantes, extus strigillosae, e basi late deltoidea subulato-acuminatae; folia opposita, petiolo gracili, 1–1.8 cm. longo, supra anguste sulcato, sparse et minute adpresso-pilosulo; limbus ellipticus vel oblongo-ellipticus, 6–8.5 cm. longus, 3–5 cm. latus, apice acutus vel obtusus, rarius rotundatus, basi obtusus vel acutus, subcoriaceus, supra viridis, sublucidus, sparse pilulis brevissimis strigillosus, nervis non elevatis, subtus pallidior, ad nervos sparse et minute adpresso-pilosulus, costa valida, elevata, nervis lateralibus utroque latere c. 6, gracilibus, prominentibus, angulo acuto adscendentibus, arcuatis, prope marginem planum obscure conjunctis; inflorescentia terminalis, corymbosa, dense pauciflora, c. 4 cm. longa

et lata, sessilis, ramulis lateralibus primariis 12–14 mm. longis, dense cano-strigillosis, pedicellis c. 5 mm. longis, crassis, dense strigillosis, flore terminali sessili; capsula immatura angulato-cylindracea, 1.5–1.8 cm. longa, fere 5 mm. lata, basi obtusa, dense cinereo-strigillosa; discus elevatus, 3 mm. altus, glaber; calycis lobi ad apicem capsulae persistentes, ovales vel elliptico-obovati, 2.5–3 mm. longi, apice obtusi vel rotundati, extus dense cinereo-strigillosi; semina numerosa, parva, linearia, utrinque in alam angustam tenuem producta.—Cuba: Loma Pelada, Cayajabos, Pinar del Río, August 9, 1928. *Brother León & J. T. Roig 13531* (Herb. N. Y. Bot. Gard., type).

Although known only from incomplete material, this plant seems to represent a distinct and well-marked species of *Exostema*. It appears to be related to *E. rotundatum* Griseb. and *E. ellipticum* Griseb., of Cuba, both of which are glabrous throughout and have narrow, acute or acuminate calyx lobes.

Coutarea hexandra (Jacq.) Schum. in Mart. Fl. Bras. 6^6: 196. 1889. *Portlandia hexandra* Jacq. Sel. Stirp. 63. 1763. *Bignonia triflora* Pav. ex DC. Prodr. 9: 148. 1845, as synonym, non Vell.

In the Paris herbarium there is a specimen collected by Ruiz and Pavón and bearing the name *Bignonia triflora*. That binomial was mentioned by DeCandolle, loc. cit., after his description of *Bignonia triflora* Vell., with the statement "*B. triflora* Pav.! herb. est Rubiacea quaedam." The plant is clearly *Coutarea hexandra*.

Coutarea Lindeniana Baill. Adansonia 12: 300. 1879.

Another collection of this rather rare plant is worth citing: Colombia: Dry plains near San José de Cucutá, Prov. Pamplona, May, 1843, *Linden 4371* (Herb. Paris). Flowers white.

Pogonopus speciosus (Jacq.) Schum. in Mart. Fl. Bras. 6^6: 265. 1889. *Macrocnemum speciosum* Jacq. Hort. Schoenbr. 1: 19. 1797.

This showy tree has been reported in Colombia only from Santa Marta and Armenia. The following collection furnishes a further record of its distribution: Colombia: Prov. Ocaña, 3,000 m., *Schlim 755* (Herb. Paris).

Chimarrhis Williamsii Standl. Field Mus. Bot. 8: 162. 1930.

Another specimen of this recently described species has come to hand: Peru: Mouth of Río Santiago, upper Marañón, 160 m., in upland forest, not very rare, December 3, 1924, *G. Tessmann 4668* (Herb. Berol.). A tree 25 m. high, the trunk 50 cm. in diameter; corolla pure white. Vernacular name, "yacu-caspi."

Rustia splendens (Karst.) Standl. Field Mus. Bot. 7: 26. 1930. *Henlea splendens* Karst. Fl. Columb. 1: 157. *pl. 78*. 1861.

Colombia: Llano de San Martín, Prov. Bogotá, 300 m., *Triana 1785* (Herb. Paris).

Rustia occidentalis (Benth.) Hemsl. Biol. Centr. Amer. Bot. 2: 14. 1881. *Exostema occidentale* Benth. Bot. Voy. Sulph. 104. 1844.

Colombia: Prov. Ocaña, 1,800 m., November, 1879, *Kalbreyer 1246* (Herb. Kew.); a shrub 3–3.5 m. high; flowers fragrant. Río San Juan, Prov. Chocó, 80 m., *J. Triana 1784* (Herb. Paris).

Sickingia Williamsii, sp. nov.—Arbor glabra, ramulis crassis ochraceis subteretibus lenticellis crebris pallidis conspersis; stipulae non visae; folia brevissime petiolata opposita, petiolo crasso 7–14 mm. longo; lamina crasse membranacea elliptico-obovata 28–40 cm. longa 15.5–21 cm. lata obtusa basin versus paullo angustata, basi ipsa acuta, supra lucida, costa venisque prominulis, nervulis prominulis et arctissime reticulatis, subtus vix pallidior, costa crassiuscula elevata, nervis lateralibus utroque latere c. 19 angulo semirecto adscendentibus gracilibus prominentibus fere rectis juxta marginem conjunctis, nervulis prominentibus arctissime reticulatis; capsulae lignosae pedicellis crassis 1.5 cm. longis stipatae ovali-oblongae 6.5 cm. longae et 3 cm. latae lenticellis pallidis inaequalibus dense conspersae basi et apice obtusae; semina numerosissima tenuia semiorbicularia 1.5–2 cm. longa, ala tenui pallida.—Peru: Tarapoto, Dept. San Martín, alt. 750 m., December 4, 1929, *Llewelyn Williams 5531* (Herb. Field Mus. Nos. 614,414 and 614,253, type).

Vernacular name, "puca quiro." The type material consists of a short branchlet with leaves, and some detached capsules. Without flowers the exact position of this species is somewhat uncertain, but it is different from any species known otherwise from the upper Amazonian region. The leaves somewhat suggest those of *S. catappifolia* Standl., described from Bolivia.

Sickingia paraguayensis, sp. nov.—Ramuli crassiusculi teretes fusco-ferruginei rimosi glabri, internodiis valde elongatis; stipulae caducae lineari-lanceolatae attenuatae fusco-ferrugineae glabrae erectae; folia petiolata opposita coriacea, petiolo crassiusculo 8–13 mm. longo glabro; lamina ovali-elliptica vel oblongo-elliptica 5.5–9 cm. longa 2–5.5 cm. lata apice obtusa vel rotundata et breviter obtuse producta, basi rotundata usque ad acutiuscula, glabra, supra fusca, sublucida, costa venisque non elevatis, subtus fere concolor, brunnescens, in axillis interdum domatiata et sparse barbata, costa gracili elevata, nervis lateralibus utroque latere c. 9 angulo latiusculo adscendentibus gracilibus prominentibus leviter arcuatis vel fere rectis prope marginem conjunctis, nervulis vix prominulis arctissime reticulatis; capsula globosa 2 cm. diam. basi et apice rotundata; semina numerosa valde compressa ala inclusa c. 12 mm. longa et 5 mm. lata, parte seminifera ferruginea, ala tenui pallida.—Paraguay: Without locality, April–May, 1845, *H. A. Weddell 3256* (Herb. Paris, type).

This is probably the southernmost species ever reported for the genus. The material is not as complete as one might desire, but it seems to illustrate a species distinct from any of those recorded from Brazil. The plant is noteworthy for the comparatively broad and obtuse leaf blades.

Phitopis sterculioides, sp. nov.—Arbor 7.5–9 m. alta, ramulis crassis dense fulvo-tomentosis et plus minusve subadpresso-hirsutis; stipulae non visae, caducae; folia breviter petiolata opposita, petiolo c. 2 cm. longo dense fulvo-piloso; lamina crasse membranacea oblongo-obovata c. 26 cm. longa et 12.5 cm. lata, apice rotundata et breviter protracta, acumine late triangulari vix 5 mm. longo obtuso, basin versus longiuscule angustata, basi ipsa acuta, supra viridis, subdense fulvo-hirsuta, pilis patentibus vel subadpressis, costa venisque vix elevatis, subtus paullo pallidior, ubique dense pilis brevibus fulvis hirsuta, secus venas subadpresso-hirsuta, costa crassiuscula elevata, nervis lateralibus utroque latere c. 22 subobliquis angulo lato abeuntibus gracilibus prominentibus leviter curvis prope marginem conjunctis, nervulis prominentibus arcte reticulatis; inflorescentia terminalis sessilis late paniculata laxe multiflora c. 23 cm. longa et aequilata, basi trichotoma, ramis paucis adscendentibus vel subdivaricatis subcompressis dense fulvo-tomentosis, floribus laxe cymosis, cymulis plerumque trifloris, flore centrali sessili vel subsessili, aliis usque ad 2 cm. longe pedicellatis, bracteis caducis, bracteolis ad basin calycis connatae et calycem fere totum includentibus usque ad 1.5 cm. longis dense tomentosis et adpresso-hirsutis; hypanthium obconicum 4–6 mm. longum basi acutum dense fulvo-tomentosum; calyx in alabastro clausus extus dense fulvo-tomentosus et adpresso-hispidulus late ovoideus apice obtusus c. 1 cm. longus, in anthesi irregulariter ruptus, intus dense sericeus et tomentellus; corolla alba extus glabra, tubo lato c. 7 mm. longo intus supra medium dense hirsuto, lobis c. 7 late rotundato-ovatis 10 mm. longis apice obtusis vel rotundatis intus glabris; stamina exserta, filamentis gracilibus infra medium breviter hirsutis; stylus gracilis glaber fere 1 cm. longus.—Peru: In dense forest, Pichis Trail, Eneñas, Dept. Junín, alt. 1,600–1,900 m., June 30–July 2, 1929, *E. P. Killip and A. C. Smith 25747* (Herb. Field Mus. No. 607,646, type).

There is known only one other species of this Peruvian genus, the original *P. multiflora* Hook. f., described from Moyobamba and Tarapoto. I have seen material of the collections on which that was based, and from them the present plant differs in its broader leaves on longer petioles, in its larger flowers, and especially in its very large and open inflorescence. Hooker does not mention in his description the fact that before anthesis the calyx is completely closed, and that it ruptures irregularly during anthesis, but this is the case with the species here described.

Rondeletia gracilispica, sp. nov.—Frutex gracilis, ramulis teretibus glabris ferrugineis, internodiis elongatis, interdum in statu juvenili sparse tomentosis sed cito glabratis; stipulae persistentes erectae 2–4 mm. longae anguste triangulares acuminatae ferrugineae glabrae vel primo sparse tomentosae; folia breviter petiolata opposita crasse membranacea elliptico-oblonga vel oblanceolato-oblonga 5–14 cm. longa 2–4.5 cm. lata longe acuminata basi acuta vel basin versus sensim attenuata, supra in sicco fusca, glabra, sublucida, subtus paullo pallidior, in statu juvenili arachnoideo-tomentosa sed cito glabrata vel glabra, costa gracili elevata, nervis lateralibus utroque latere c. 7 angulo acuto adscendentibus gracillimis prominulis arcuatis juxta marginem conjunctis, nervulis non elevatis laxe reticulatis; inflorescentia terminalis paniculata spiciformis 7–15 cm. longa 1–1.5 cm. lata laxe multiflora, floribus parvis in cymulas parvas pauciforas densiusculas dispositis sessilibus vel brevissime pedicellatis, bracteis minutis lanceolato-subulatis; hypanthium subglobosum fere 1 mm. longum laxe arachnoideo-tomentosum; calyx 4-lobus, laciniis valde inaequalibus oblongo-lanceolatis vel oblongo-ovatis acutis vel acuminatis erectis 0.5–1 mm. longis fere vel omnino glabris; corolla gracilis extus glabra, tubo cylindraceo 5–6 mm. longo, lobis 4 rotundatis patentibus intus glabris c. 1.2 mm. longis; antherae inclusae; capsula non visa.—Mexico: "Sierra San Pedro Nolasco, Talea, &c.," Oaxaca, 1843–44, *C. Jurgensen 935* (Herb. Kew., type), *776* (Herb. Kew.). Oaxaca, in 1842, *Liebmann* (Herb. Paris).

The plant belongs to the writer's group *Laniflorae* of the genus *Rondeletia,* a group characterized by the elongate, spikelike inflorescence. From all the species of that association this differs in its completely glabrous corolla.

Rondeletia peruviana, sp. nov.—Arbor 10-metralis, trunco 15 cm. diam., ramulis crassiusculis teretibus fuscis striatis, novellis dense et adpresse albido-tomentosis, internodiis abbreviatis; stipulae persistentes 4–7 mm. longae oblongae vel oblanceolato-oblongae obtusae vel acutiusculae erectae prope basin et ad margines tomentosae, aliter glabrae; folia breviter petiolata opposita crasse membranacea, petiolo valido 3–12 mm. longo dense tomentoso; lamina elliptica vel oblongo-elliptica 6–14.5 cm. longa 2.5–6.5 cm. lata sensim vel subabrupte acuminata, acumine angusto attenuato, basi acuta vel rarius obtusa, supra in sicco fusco-viridis, glabra, venis subimpressis, subtus tomento albido densissimo induta, nervis lateralibus utroque latere c. 11 angulo semirecto adscendentibus gracilibus arcuatis juxta marginem conjunctis; inflorescentia terminalis vel interdum lateralis cymoso-paniculata laxe pauciflora c. 4 cm. longa, ramis brevibus crassis densissime tomentosis, floribus sessilibus vel 2 mm. longe pedicellatis, bracteis fere obsoletis; hypanthium oblongum 2–2.5 mm. longum dense tomentosum; calyx 4-lobus extus tomentosus, lobis oblongis vel anguste triangularibus erectis acutis vel obtusiusculis; corolla extus dense albido-tomentosa, tubo crassiusculo 11–15 mm. longo supra vix dilatato ore c. 2.5 mm. lato,

lobis 4 rotundatis crispis 3 mm. longis patentibus intus glabris; antherae inclusae; capsula oblongo-ovoidea c. 6 mm. longa et 4 mm. lata glabrata basi rotundata; semina numerosissima minuta ferruginea angulata.—Peru: Mouth of the Río Santiago, upper Marañón, alt. 160 m., in upland forest, October 7, 1924, *G. Tessmann 4223* (Herb. Berol., type).

"Corolla olive-brown outside, the lobes white within."

The genus *Rondeletia* has not been reported south of Ecuador, although I have seen a specimen of the genus labeled as from Bolivia, but in that case the locality data were open to question. The present plant adds another genus to the already long list of genera of Rubiaceae known from Peru.

Oldenlandia filicaulis Schum. in Mart. Fl. Bras. 6^6: 271. *pl. 127, f. 2.* 1889.

Brazil: Campos da Serra do São Ignacio, February, 1907, *Ule 7560* (Herb. Kew.). Lake near Remanso, December, 1906, *Ule 7419* (Herb. Kew.).

Oldenlandia Dusenii, sp. nov.—Herba gracilis repens parce ramosa ad nodos radicans, caulibus gracillimis subdense albo-villosis, internodiis foliis longioribus; stipulae brevissimae minutae et pilis occultae in lacinias paucas filiformes partitae; folia petiolata opposita, petiolo gracili 3–6 mm. longo albo-villoso; lamina membranacea orbicularis interdum latior quam longa, rare ovato-rotundata, 7–14 mm. longa et aequilata, apice breviter apiculato-acuminata, basi rotundata vel interdum abrupte contracta et cuneatim decurrens, supra dense breviterque villosa, subtus pilis longioribus villosa, costa venisque subtus inconspicuis, nervis lateralibus utroque latere c. 3; flores axillares solitarii, pedicellis filiformibus 5–20 mm. longis saepe curvis sparse villosis; hypanthium late obovoideum 1.5 mm. longum densissime albido-villosum; calyx 4-partitus, laciniis 2.5–3.5 mm. longis erectis lanceolatis vel anguste ovatis acuminatis extus breviter villosis persistentibus viridibus; corolla 6–7 mm. longa infundibuliformis extus sparse villosula, lobis 4 late triangularibus obtusis suberectis tubo triplo brevioribus; capsula didymo-obovoidea 2.5 mm. longa fere omnino inferior, seminibus paucis obtuse angulatis.—Brazil: Tres Barras, State of Paraná, locis subhumidis graminosis, alt. 760 m., January 26, 1916, *P. Dusén 17554* (Stockholm herb., type).

The plant was designated by the collector as a new genus, the name being still unpublished. There are no apparent characters by which it may be distinguished from *Oldenlandia.* It bears no close resemblance to any species reported from South America, but in habit and general appearance the plant suggests *Houstonia procumbens* (Walt.) Standl., of the southeastern United States.

The genus *Oldenlandia* has not been recorded as a member of the flora of Peru. Two of the commonest species of the genus have been collected there recently:

Oldenlandia corymbosa L. Sp. Pl. 119. 1753.

Peru: Mishuyacu, Dept. Iquitos, 100 m., in clearing, *Klug 502, 1161.*

Oldenlandia herbacea (L.) DC. Prodr. 4: 425. 1830. *Hedyotis herbacea* L. Sp. Pl. 102. 1753.

Peru: Caballo Cocha, Dept. Loreto, in cleared land, August, 1929, *Williams 2297.*

Creatantha, gen. nov.—Arbores; folia opposita petiolata ampla membranacea; stipulae intrapetiolares profunde bifidae breviter connatae; inflorescentia terminalis paniculata thyrsoidea e cymis composita, floribus speciosis albis bibracteolatis actinomorphis hexameris; calyx brevissimus cupularis truncatus intus eglandulosus; corolla latissime infundibuliformis campanulata crasse carnosa extus glabra, tubo latiore quam longus intus dense villoso, lobis 6 oblongo-ovatis obtusis intus infra apicem dense barbatis aestivatione valvatis vel leviter imbricatis tubo paullo longioribus patentibus vel recurvis; stamina basi tubi inserta vix exserta, antheris sessilibus oblongis acutiusculis basi integris plus minusve corrugatis prope basin affixis; ovarium 3-loculare, ovulis numerosis placentae angulo interiore loculi affixae adnatis anatropis; stylus brevis filiformis glaber apice in ramos 2 breves carnosos divisus; bacca globosa calyce persistente coronata 3-locularis; discus paullo elevatus annularis integer; semina numerosissima minuta irregulariter polyedra minute foveolata.

Type species, *Creatantha peruviana* Standl.

Creatantha peruviana, sp. nov.—Arbor 6–9-metralis, ramulis crassis breviter denseque griseo-pilosulis; stipulae 2 cm. longae fere ad basin bifidae extus sparse puberulae, laciniis anguste lanceolato-oblongis acuminatis; petiolus gracilis subteres 8.5–10 cm. longus puberulus vel glabratus; lamina elliptica 34–37 cm. longa 15–19 cm. lata apice obtusa et breviter abrupte caudato-acuminata, acumine 1.5 cm. longo longe attenuato, basi acuta vel abrupte contracta et breviter decurrens, supra viridis, glabra vel tantum ad venas sparse et obscure puberula, sublucida, costa venisque vix elevatis, subtus pallidior, albida, ubique dense minute puberulo-tomentella vel serius glabrata, costa crassa elevata, nervis lateralibus utroque latere c. 25 angulo fere recto vel interdum multo angustiore abeuntibus gracillimis prominentibus fere rectis juxta marginem conjunctis, nervulis inconspicuis laxe reticulatis; inflorescentia (imperfecta tantum visa) 26 cm. longa et ultra, basi 16 cm. lata, supra paullo angustata, rhachi crassissima striata sparse minute puberula, ramis numerosis solitariis vel fasciculatis compressis sparse puberulis, bracteis linearisubulatis vel linearibus usque ad 4 cm. longis, bracteolis minutis late triangulari-ovatis acutis puberulis et ciliolatis, cymis laxe pauci-

vel multifloris, flore terminali sessili, aliis 2–5 mm. longe pedicellatis; hypanthium obconicum basi acutum 8 mm. longum et aequilatum fere glabrum, calyce c. 2 mm. alto; corolla in alabastro apice rotundata tubo c. 5 mm. longo et 10 mm. lato extus tomentello vel glabrato, lobis crassissimis c. 8 mm. longis extus glabris; antherae c. 6 mm. longae et 2 mm. latae; stylus c. 4 mm. longus; baccae globosae 8 mm. diam. glabrae basi et apice rotundatae; semina pallide rubro-brunnea fere 1 mm. diam.—Peru: Edge of woods, Puerto Yessup, Dept. Junín, alt. 400 m., July 10–12, 1929, *E. P. Killip and A. C. Smith 26331* (Herb. Field Mus. No. 607,555, type).

This new genus is one regarding whose systematic position there is no doubt. It is related only to *Isertia*, whose species it resembles closely in foliage and form of the inflorescence, as well as in most flower details. The relationship evidently is very close, but the corolla in the present plant is so different from that of the genus *Isertia* that this Peruvian tree can not be referred to *Isertia*, if any importance is to be attached to the characters used commonly in the Rubiaceae for separating genera. In *Isertia* the corollas are very long, slender, and tubular, with very short and spreading lobes, while in *Creatantha* the extraordinarily broad tube is even shorter than the lobes. The stamens in *Isertia* are inserted at the top of the tube, and in *Creatantha* at the base of the tube, but probably in the latter case they are quite as close to the mouth of the tube as in *Isertia*, and this character therefore is one of no importance.

In connection with the description of this new genus it is pertinent to discuss the status of the genera *Isertia* and *Cassupa*, about which the writer long has entertained doubt. According to most authorities, *Isertia* has a 4–6-celled berry and imbricate corolla lobes, while in *Cassupa* the berry is 2-celled and the corolla lobes are valvate. In some recently described species of *Cassupa* the ovary is known to be either 2- or 3-celled. After careful examination of corollas and buds of the plants referred to the two genera, I am unable to see any essential differences in estivation. All the plants referred to the two genera are exactly similar in general appearance, and all or most of the species, in fact, are separated with more or less difficulty. In view of the variation and relative unimportance of the supposedly distinguishing characters, and especially on account of the similarity in aspect of all the plants concerned, it seems best to unite these two genera, under the older name, *Isertia*. The species of *Cassupa* listed below are, therefore, transferred to *Isertia*. It is probable that when more ample material of them is available, some of the *Cassupa* species will be found to be synonymous with others described under *Isertia* or vice versa, or else they can be maintained only by the

artificial character of the number of ovary cells, which very likely is variable upon the same plant.

Isertia alba (Schum. & Krause), comb. nov. *Cassupa alba* Schum. & Krause, Bot. Jahrb. Engler 40: 322. 1908. *C. alba* Schum. in E. & P. Nat. Pfl. 4^4: 63. 1891, nomen.

Isertia juruana (Schum. & Krause), comb. nov. *Cassupa juruana* Schum. & Krause, Bot. Jahrb. Engler 40: 148. 1907, nomen; Verh. Bot. Ver. Brandenb. 50: 97. 1908.

Isertia panamensis (Standl.), comb. nov. *Cassupa panamensis* Standl. Contr. U. S. Nat. Herb. 18: 135. 1916.

Isertia Pittieri (Standl.), comb. nov. *Cassupa Pittieri* Standl. Contr. U. S. Nat. Herb. 17: 445. 1914.

Isertia scarlatina (Schum. & Krause), comb. nov. *Cassupa scarlatina* Schum. & Krause, Bot. Jahrb. Engler 40: 148. 1907, nomen; Verh. Bot. Ver. Brandenb. 50: 98. 1907.

Isertia verrucosa (H. & B.), comb. nov. *Cassupa verrucosa* H. & B. Pl. Aequin. 1: 43. *pl. 12.* 1808.

Coccocypselum hirsutum Bartl. ex DC. Prodr. 4: 396. 1830.

Although this species has been recorded from Bolivia, and ranges northward to Central America and Mexico, it has not been reported from Peru. The following collection attests its occurrence in that country: Peru: Moyobamba, San Roque, Dept. San Martín, alt. 1,350–1,500 m., January 11, 1930, *Williams 7307.* Vernacular name, "sapu-quina."

Coccocypselum glabrifolium Standl. Field Mus. Bot. 8: 165. 1930.

Several additional collections of this recently described species have come to hand lately: Brazil: Prov. Minas Geraes, *Saint-Hilaire 459* (Herb. Paris), *487* (Herb. Paris). Prov. Rio de Janeiro, *Saint-Hilaire 459* (Herb. Paris). State of Rio de Janeiro, *Glaziou 17080* (Herb. Kew.), *8744* (Herb. Kew). Jaguariahyva, Paraná, in rupibus campestribus, alt. 730 m., December 8, 1910, *P. Dusén 11321* (Stockholm herb.).

Coccocypselum pumilio, sp. nov.—Herba prostrata ramosa, caulibus gracillimis pilis longis laxis patentibus multicellularibus saepe purpureis dense villosis, internodiis brevibus vel saepe foliis longioribus; stipulae minutae subulatae deciduae; folia petiolata opposita, petiolo c. 2 mm. longo villoso; lamina membranacea orbicularis vel rotundato-ovata 6–9 mm. longa et fere aequilata apice rotundata vel obtusissima basi late rotundata vel truncata utrinque

pilis longis patentibus multicellularibus satis dense villosa, subtus purpurascens vel viridis, costa elevata gracili, nervis lateralibus utroque latere c. 4 angulo acuto adscendentibus arcuatis; flores ad axillas solitarii sessiles vel subsessiles; hypanthium obovoideum c. 1 mm. longum hispidulum; calyx 4-partitus, laciniis ovali-oblongis 2 mm. longis obtusis hispidulis erectis corollam semiaequantibus; corolla extus sparse hispidula 6 mm. longa, lobis 4 obtusis elliptico-ovatis tubo crasso fere duplo longioribus; semina numerosa orbicularia fere 1 mm. lata subcompressa fusco-brunnea minute puncticulata.—Brazil: Jaguariahyva, State of Paraná, in campo arenoso humidiusculo, October 23, 1911, *P. Dusén 13283* (Stockholm herb., type).

Rather closely related to *C. uniflorum* Hassler, but in that species the petioles are relatively longer, and the pubescence of the leaves and branches consists of much shorter and more slender hairs of quite different appearance.

Hippotis albiflora Karst. Fl. Columb. 1: 33. *pl. 17.* 1858.

Of this species only the type has been reported. One other collection has come to hand recently, but unfortunately its label bears no definite locality data: Colombia: In 1851–57, *Triana 3297* (Herb. Paris).

Pentagonia subauriculata, sp. nov.—Frutex; folia sessilia papyracea elliptico-obovata c. 70 cm. longa et 30 cm. lata, breviter acuminata, acumine triangulari acuto, infra medium subcontracta et basin versus angustata, basi ipsa anguste cordata, supra glabra, costa venisque prominentibus, subtus paullo pallidior, praesertim ad venas pilis gracillimis sparse adpresso-pilosa, costa crassiuscula elevata, nervis lateralibus utroque latere c. 19 angulo latiusculo adscendentibus prominentibus gracilibus fere rectis juxta marginem conjunctis, marginem versus ramulos 1–2 curvos emittentibus, nervulis transversis obscuris, inter nervulos creberrime striolata; flores sejuncti tantum visi, "bracteis rubris"; hypanthium obovoideum 5 mm. longum puberulum; calyx spathaceus 2–2.5 cm. longus sparse puberulus vel glabratus, uno latere profunde fissus, altero breviter bifidus, vel post anthesin aequaliter bilobus, lobis lanceolato-oblongis acutis usque ad 1 cm. latis; corolla alba extus glabra, tubo crasso 3 cm. longo supra paullo sensimque dilatato ore c. 8 mm. lato, lobis ovato-triangularibus acutiusculis c. 7 mm. longis.—Peru: In dense forest, Santa Rosa, lower Río Huallaga below Yurimaguas, Dept. Loreto, alt. 135 m., September 1–5, 1929, *E. P. Killip and A. C. Smith 28959* (Herb. Field Mus. No. 613,692, type).

Evidently an ally of *P. spathicalyx* Schum., which occurs in the same general region, but in that species the leaves are long-petiolate and the blades acute at the base.

Pentagonia velutina, sp. nov.—Frutex vel arbuscula; folia ut videtur petiolata; lamina papyracea late obovata vel oblongo-obovata

40–45 cm. longa 19–26 cm. lata acuta versus basin paullo angustata, basi ipsa acuta, supra glabra, costa venisque elevatis, subtus paullo pallidior, densissime velutino-pilosula, costa crassa elevata, nervis lateralibus utroque latere c. 13 angulo acuto adscendentibus elevatis fere rectis marginem attingentibus, prope marginem ramulos 1–2 emittentibus, inter nervos primarios creberrime striolata; baccae sessiles globosae 2 cm. diam. glabratae basi et apice rotundatae; calyx ad apicem baccae persistens 1.5–2 cm. longus subspathaceus bilobus, lobis oblongis acutis; cetera ignota.—Peru: In forest, Puerto Arturo, Yurimaguas, lower Río Huallaga, Dept. Loreto, alt. 155–210 m., November 21, 1929, *Llewelyn Williams 5280* (Herb. Field Mus. No. 614,357, type); November 15, 1929, *Williams 5046*.

Each specimen consists of a single leaf from which the petiole has been cut, with a few loose fruits. The material, however, is sufficient to show that the plant is distinct from all the other South American species of *Pentagonia*. It is distinguished primarily by the soft and dense pubescence of the lower leaf surface. *P. Williamsii* Standl., recently described from Pebas, has similar pubescence, but in that the leaves are long and narrow and have more numerous nerves.

Sabicea ambigua Standl. Field Mus. Bot. 7: 49. 1930.

The species was based upon *Triana 1847* in the Kew herbarium, whose label did not give the locality at which the plant was collected. In the Paris herbarium there is a specimen of the same collection with locality data, also a second collection of the species: Colombia: Prov. Chocó and Barbacoas, *Triana 1847;* also *No. 1848*. Vernacular name, "yerba de maleficio."

Bertiera guianensis Aubl. Pl. Guian. 180. *pl. 69*. 1775.

In the enumeration of the Rubiaceae of Colombia a single specimen of this species was listed. Another may now be reported: Colombia: Villavicencio, 400 m., *Triana 1844* (Herb. Paris).

Hamelia grandiflora Spruce ex Wernham, Journ. Bot. 49: 209. 1911.

Heretofore the species has been known only from Ecuador, but it may be reported now from Colombia: Prov. de Chocó et Barbacoas, 75 m., 1851–57, *J. Triana 1759* (Herb. Paris). Some of the corollas are as much as 3.8 cm. long.

Hoffmannia Dusenii, sp. nov.—Frutex (?), ramulis crassis subteretibus glabris vel sparse praesertim ad nodos ferrugineo-villosulis, internodiis brevibus vel elongatis; stipulae caducae; folia opposita longe petiolata, petiolo crassiusculo 2.5–10 cm. longo sparse villosulo vel glabrato; lamina membranacea elliptica vel oblongo-

elliptica 13–23 cm. longa 6–11.5 cm. lata abrupte acuta vel acuminata, acumine angusto attenuato acuto, basi abrupte acuta vel interdum contracta et longiuscule decurrens, supra laete viridis, glabra vel primo sparse villosula, costa nervisque non elevatis, subtus multo pallidior, ubique rhaphidibus pallidis brevibus dense conspersa, ad costam venasque ferrugineo-villosula vel adpresso-villosula, costa crassa prominente, nervis lateralibus utroque latere c. 12 prominulis gracilibus angulo lato adscendentibus arcuatis, nervulis prominulis paucis laxe reticulatis; flores ad nodos cymoso-fasciculati, cymulis densis paucifloris sessilibus vel brevissime pedunculatis, floribus vulgo 1–2 mm. longe pedicellatis; hypanthium oblongo-campanulatum 3–4 mm. longum sparse villosulo-puberulum; calyx 4-partitus, laciniis suberectis 4–5 mm. longis lineari-attenuatis sparse villosulis vel glabratis persistentibus; corolla extus sparsissime villosula c. 9 mm. longa in alabastro attenuata fere ad basin 4-loba, lobis anguste lanceolatis attenuatis intus glabris; antherae lineares 4–5 mm. longae; stylus gracilis glaber c. 8 mm. longus; baccae immaturae late oblongae 7–8 mm. longae.—Brazil (Paraná): Desvio Ypiranga, in silvis primaevis, October 31, 1914, *P. Dusén 15792* (Herb. Stockholm, type). Ponta Grossa, Capão, in umbrosis ad rivulum, January, 1909, *Dusén 7519* (S). Porto de Cima, in silva primaeva ad terram, October, 1908, *Dusén 6925* (S).

Only one other species, *Hoffmannia Peckii* Schum., is reported from Brazil, and it differs clearly from the present plant in having glabrous leaves and short calyx lobes. Schumann described in the *Flora Brasiliensis* a var. *Selloana*, based upon *Sello 4272* from Brazil, which may well be the same as *H. Dusenii*. I have seen no material of that variety, which is said by its author to be based upon imperfect material, and it seems better to give the present plant a new name, rather than raise the doubtful variety to specific rank.

Posoqueria palustris Mart. Flora 24: Beibl. 2: 77. 1841.

Brazil: Province of Rio de Janeiro, 1816–21, *Saint-Hilaire 233* (Herb. Paris).

Tocoyena Williamsii, sp. nov.—Arbor mediocris, ramulis crassis subcompressis ochraceis glabris; stipulae deciduae; folia breviter petiolata opposita, petiolo 1–2 cm. longo gracili glabro; lamina chartacea elliptico-obovata 15–34 cm. longa 7.5–16 cm. lata acuta vel breviter acuminata, acumine obtuso, basi cuneato-acuta, glabra, in sicco nigrescens, supra lucida, costa venisque prominentibus, subtus concolor, lucida, costa gracili elevata, nervis lateralibus utroque latere c. 11 angulo semirecto abeuntibus gracilibus prominentibus fere rectis prope marginem conjunctis, nervulis obscuris; inflorescentia terminalis cymosa dense multiflora breviter pedunculata glabra, corollis neglectis 5 cm. lata, ramulis crassis, bracteis obsoletis vel caducis, floribus sessilibus vel brevissime et crassissime pedicellatis; hypanthium obovoideo-oblongum 4.5–5 mm. longum basi angus-

tatum, calyce aequilato 2–2.5 mm. longo truncato; corolla in alabastro obtusissima, tubo gracili 9–9.5 cm. longo 2.5 mm. crasso, lobis 6 reflexis obovatis vel late ellipticis c. 12 mm. longis apice obtusis vel rotundatis intus glabris; antherae sessiles ad orem tubi insertae anguste oblongo-lanceolatae 4.5 mm. longae; bacca globosa basi et apice late rotundata 7 cm. diam.—Peru: Iquitos, Dept. Loreto, alt. 120 m., April 1, 1930, *Llewelyn Williams 8097* (Herb. Field Mus. Nos. 614, 658–59, type).

Related to *T. Sellowiana* (C. & S.) Schum., of Brazil, but that species is distinguished immediately by its small leaves with few lateral nerves.

Tocoyena amazonica, sp. nov.—Frutex vel arbuscula, ramulis gracilibus, vetustioribus pallide fusco-brunneis, novellis in sicco subcompressis fuscis sparse minute puberulis vel subglabris; stipulae 4 mm. longae ovato-triangulares subpersistentes mucronato-acutae minute adpresso-pilosulae vel glabratae; folia breviter petiolata opposita, petiolo gracili 8–18 mm. longo puberulo vel glabrato; lamina membranacea in sicco nigrescens elliptico-oblonga vel oblanceolato-oblonga 11–21 cm. longa 3–7.5 cm. lata longe acuminata, acumine angusto longe attenuato, basin versus longe attenuata, supra sublucida, sparse et minutissime puberula vel glabra, costa venisque prominulis, subtus paullo pallidior, tantum ad venas minutissime puberula vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere c. 11 angulo semirecto vel paullo latiore abeuntibus gracillimis prominulis fere rectis prope marginem conjunctis, nervulis inconspicuis prominulis laxe reticulatis; inflorescentia terminalis, floribus ut videtur ad apices fasciculatis paucis crasse 8 mm. longe pedicellatis; bacca globosa 2 cm. longa glabra basi et apice rotundata costata, seminibus numerosis magnis; calyx ad apicem baccae persistens 4 mm. longus dentibus late triangularibus acutis.—Peru: Río Masana, along the Río Itaya, Dept. Loreto, May 2, 1929, *Llewelyn Williams 21* (Herb. Field Mus. No. 601,947, type). Pebas, on the Amazon River, Dept. Loreto, in forest, July 27, 1929, *Williams 1811*.

From *T. Williamsii* this differs in its small leaves of different texture, and its smaller fruits and sparse pubescence. Without flowers it is not quite certain that the plant really belongs to the genus *Tocoyena*, but it seems to fit there better than in the other related genera.

Tocoyena Sprucei, sp. nov.—Arbor parva vel frutex, ramulis crassis ochraceis vel ferrugineis subteretibus, novellis dense puberulis vel subtomentosis, interdum fere glabris, internodiis abbreviatis; stipulae deciduae, non visae; folia brevissime petiolata crasse membranacea opposita, petiolo c. 1 cm. longo crasso; lamina late elliptica, elliptico-ovalis, fere rotundata vel obovato-rotundata, 9–19 cm. longa, 5–14 cm. lata, apice late rotundata vel obtusa, rare acuta, basi late rotundata vel obtusa et vulgo abrupte contracta et decurrens,

supra in sicco fusca, glabra vel tantum ad venas puberula, leviter bullata, venis plus minusve impressis, subtus multo pallidior, discolor, ad venas saepe dense minute puberula vel fere omnino glabra, costa gracili elevata, nervis lateralibus utroque latere c. 9 angulo semirecto adscendentibus irregularibus leviter arcuatis vel fere rectis gracillimis prominentibus prope marginem conjunctis, nervulis conspicuis laxe reticulatis; inflorescentia terminalis cymosa sessilis pauci- vel multiflora densa, ramis dense ferrugineo-puberulis vel glabratis, floribus sessilibus vel usque ad 4 mm. longe pedicellatis, bracteis caducis; hypanthium oblongum vel obovoideum 5–6 mm. longum glabrum basi angustatum; calycis tubus 3–4 mm. longus et 4–5 mm. latus, dentibus vix 1 mm. longis acutis triangularibus vel depresso-triangularibus remotis glabris; corolla gracilis extus glabra in alabastro obtusa, tubo 8.5–11.5 cm. longo 3–4 mm. lato fauce vix dilatato ore villosulo, lobis 5 ovalibus vel rotundato-ovatis 10–14 mm. longis apice rotundatis intus dense puberulis patentibus; antherae lineari-oblongae 6–7 mm. longae semiexsertae; bacca late ovalis glabra 3–3.5 cm. longa et 2.5 cm. lata, basi et apice rotundata; semina numerosa magna compressa.—Brazil: Santarem, high campos, November, 1849, in fruit, *R. Spruce 358* (Herb. Kew., type). Santarem, in 1851, in fruit, *Spruce 358* (Herb. Kew.). Serra de Araripa, January, 1839, *Gardner 1964* (Herb. Kew.).

According to Spruce's notes, the plant is a small tree with rough bark; flowers ochre-yellow; fruit yellow when ripe. Gardner describes it as a shrub about 2.5 m. high with yellow flowers.

Tocoyena Sprucei is a relative of *T. bullata* (Vell.) Mart. The latter has much more strongly bullate leaves which are copiously pubescent and usually much narrower than in the plant here described.

Sphinctanthus maculatus Spruce ex. Schum. in Mart. Fl. Bras. 6^6: 356. 1888.

The genus *Sphinctanthus* has not been recorded from Peru, but several collections are now at hand from that country. The following material of this species is in the herbarium of Field Museum: Brazil: Between Barcellos and Santa Isabel, upper Amazon, December, 1851, *Spruce 1939* (photo. of type collection from Herb. Berol.).—Peru: Mouth of Río Santiago, *Tessmann 4229* (fragment from Herb. Berol.). Yurimaguas, lower Río Huallaga, Dept. Loreto, 155–210 m., a shrub in forest, *Williams 4730*. Huallaga, Yurimaguas, a shrub in forest, *Williams 4659*. Puerto Arturo, lower Río Huallaga, Dept. Loreto, a small shrub in pasture, *Williams 5198*. Balsapuerto, lower Río Huallaga basin, Dept. Loreto, 150–350 m., a shrub of 3–4.5 m., fruit orange, *Killip & Smith 28645*. Cahuapanas, on Río Pichis, Dept. Junín, 340 m., in dense forest, a shrub of 3–4.5 m., fruit yellow, *Killip & Smith 26729*.

Sphinctanthus Hasslerianus Chod. Bull. Herb. Boiss. II. 4: 179. 1904.

Paraguay: Colonia Risso prope Apa, in margine silvae minus densae, loco humidiusculo, September, 1892, *G. A. Malme 982* (Herb. Stockholm). A branched shrub about 2 m. high; flowers yellow.

Randia calycina Cham. Linnaea 9: 246. 1834.

The plant has not been reported from Colombia, but the following collections appear to represent the species: Colombia: Tenasucá, Prov. Bogotá, *Triana 3304* (Herb. Paris). Tenasucá, 1,000 m., *Triana 1827* (Herb. Paris).

Randia aculeata L. Sp. Pl. 1192. 1753.

Colombia: Mariquita, Magdalena Valley, 600 m., *Triana 1830* (Herb. Paris). San Miguel, Distrito de Piedras, Prov. Mariquita, *Triana 3304* (Herb. Paris). Vernacular names, "maíz tostado," "cruceto."

Randia spinosa (Jacq.) Karst., var. **pubescens** (HBK.), comb. nov. *Mussaenda pubescens* HBK. Nov. Gen. & Sp. 3: 420. 1820. *Basanacantha spinosa* (Jacq.) Schum., var. *pubescens* Schum. in Mart. Fl. Bras. 6[6]: 378. 1889.

Randia Tessmannii Standl. Field Mus. Bot. 4: 327. 1929.

Several additional numbers of this handsome plant have appeared in recent collections from Peru: Sapote Yacu, Santa Rosa, lower Río Huallaga, Dept. Loreto, 155–210 m., November, 1929, a shrub in forest, *Williams 4929*. Puerto Arturo, Yurimaguas, lower Río Huallaga, Dept. Loreto, 155–210 m., a shrub at edge of river, November, 1929, *Williams 5249;* a shrub in forest, *Williams 5357*.

The last specimen cited is in fruit. The fruit is globose, smooth, and 3 cm. in diameter.

Randia Killipii Standl. Field Mus. Bot. 8: 170. 1930.

Of this recently described species two additional collections may now be reported: Peru: Paraíso, Alto Río Itaya, Dept. Loreto, 145 m., a shrub in forest, October 3, 1929, *Williams 3372*. San Antonio, Alto Río Itaya, 145 m., October 9, 1929, *Williams 3508*.

Duroia hirsuta (Poepp. & Endl.) Schum. in Mart. Fl. Bras. 6[6]: 367. 1889. *Amaioua hirsuta* Poepp. & Endl. Nov. Gen. & Sp. 3: 25. *pl. 230*. 1845.

Colombia: Villavicencio, 400 m., *Triana 1843* (Herb. Paris). Llano de San Martín, Villavicencio, 450 m., January, 1856, *Triana* (Herb. Paris). Vernacular name, "turma de mico."

Duroia stenophylla, sp. nov.—Frutex bimetralis, ramulis crassiusculis in sicco fuscis et costatis dense pilis adscendentibus fulvis hirsutis; stipulae subpersistentes tenues brunnescentes oblongae 2–3 cm. longae obtusae extus dense adpresso-hirsutae; folia breviter petiolata opposita, petiolo crasso 8–12 mm. longo hirsuto; lamina crasse membranacea anguste oblanceolato-oblonga c. 17.5 cm. longa et 4–5 cm. lata abrupte caudato-acuminata, acumine c. 1 cm. longo angusto longe attenuato, basin versus longe sensim angustata, supra viridis, minute pallido-puncticulata, tantum ad venas hispida, costa venisque prominulis, subtus paullo pallidior, sparse vel ad costam dense hirsuta, costa gracili elevata, nervis lateralibus utroque latere c. 17 angulo lato saepe fere recto abeuntibus prominentibus gracilibus fere rectis prope marginem conjunctis, nervulis obscuris; inflorescentia terminalis cymoso-corymbosa 3 cm. longe pedunculata trichotoma, corollis neglectis 6 cm. latis, ramis primariis 1.5–2 cm. longis dense hirsutis apice dense cymose paucifloris, pedicellis dense hirsutis plerumque 3–6 mm. longis; hypanthium floris masculi breve, calyce profunde 6-fido, laciniis lineari-subulatis rigidis erectis 8 mm. longis dense hirtellis longe attenuatis; corolla in alabastro longe attenuata, tubo crassiusculo 13 mm. longo et 4 mm. lato sub orem paullo angustato dense sericeo ore glabro, lobis linearibus longe attenuatis c. 23 mm. longis intus glabris extus hirtellis.—Peru: Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., in forest, December, 1929, *G. Klug 699* (Herb. Field Mus. No. 612,578, type).

Evidently a relative of *D. hirsuta* (Poepp. & Endl.) Schum., which grows in the same general region, but in that the leaves are much broader, the branches are fistulose-thickened, and the proportions of the corolla are different.

Duroia trichocarpa, sp. nov.—Arbor mediocris, ramulis crassis ochraceis in sicco costatis dense hirsutis; stipulae non visae; folia petiolata opposita, petiolo crassiusculo dense hispido 1.5–3 cm. longo; lamina crasse membranacea elliptica vel late elliptica 14–26 cm. longa 6.5–16 cm. lata apice acuta et abrupte caudato-acuminata, acumine longe attenuato apice fere filiformi, basin versus paullo contracta et longe angustata vel basi obtusa, supra pallida, sparse breviterque hirsuta vel glabrata, costa venisque non elevatis, subtus fere concolor, sparse hirsuta, costa gracili elevata, nervis lateralibus utroque latere c. 10 angulo lato adscendentibus prominentibus gracilibus subarcuatis juxta marginem conjunctis, venulis prominulis laxe reticulatis; flores ad apices ramulorum dense capitato-conferti sessiles vel subsessiles numerosi; calyx dense ferrugineo-hirsutus profunde 6-fidus, laciniis linearibus suberectis usque ad 12 mm. longis; bacca obovoideo-globosa 3 cm. longa basi obtusa apice late rotundata et calyce persistente coronata, dense pilis longis patentibus brunnescentibus hirsuta.—Peru: San Antonio, Alto Río Itaya, Dept. Loreto, in forest, October 7, 1929, *Llewelyn Williams 3470* (Herb. Field Mus. Nos. 614,392–93, type).

Amaioua urophylla, sp. nov.—Arbor 6-metralis, ramulis crassis fuscis striatis hirtellis vel glabratis, internodiis ut videtur brevibus; stipulae plus minusve persistentes 8–12 mm. longae ovato-triangulares acutae extus adpresso-pilosae fusco-ferrugineae; folia petiolata opposita, petiolo 1.5–3 cm. longo crasso supra sulcato breviter hirsuto vel glabrato; lamina coriacea oblongo-elliptica 10–20 cm. longa 5–7.5 cm. lata apice acuta vel obtusa et abrupte longeque caudato-acuminata, acumine lineari-attenuato basi dilatato 1–3.5 cm. longo, basi acuta vel rotundata, supra glabra, sublucida, costa venisque non elevatis, subtus fere concolor, ubique dense asperulo-puberula et ad venas adpresso-pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 12 angulo c. semirecto abeuntibus gracilibus prominentibus leviter arcuatis prope marginem conjunctis, nervulis obscuris; inflorescentiae terminales solitariae vel geminatae crasse 2.5–4 cm. longe pedunculatae cymoso-umbellatae corollis neglectis c. 3 cm. latae dense pauciflorae, floribus masculis sessilibus vel subsessilibus, bracteis obsoletis; calyx hypanthio brevi adjecto 6–8 mm. longus basi obtusus dense hirtellus, margine breviter dentatus, dentibus late triangularibus obtusis vel acutis; corolla alba in alabastro linearis apicem versus paullo attenuata extus densissime sericea, tubo crassiusculo fere 3 cm. longo et 4 mm. crasso intus ad insertionem staminum dense piloso, lobis 6 linearibus aequilongis longe attenuatis carnosis intus glabris; antherae 1 cm. supra basin tubi insertae lineares 12 mm. longae apice mucronatae; stylus ramis adjectis 24 mm. longus glaber. —Peru: Mishuyacu, near Iquitos, Dept. Loreto, in forest, alt. 100 m., October–November, 1929, *G. Klug 419* (Herb. Field Mus. No. 612,595, type).

The species is noteworthy for its very large flowers and for its long-caudate leaves.

Alibertia edulis A. Rich. Mém. Soc. Hist. Nat. Paris 5: 234. 1830.

Colombia: Llano de San Martín, 300 m., *Triana 1842* (Herb. Paris). Without locality, *Triana 3305* (Herb. Paris). Vernacular name, "perita."

Alibertia Gardneri, sp. nov.—Frutex parvus dense ramosus, ramulis gracilibus rigidis subteretibus ferrugineis dense minute puberulis, internodiis plerumque abbreviatis; stipulae subpersistentes erectae ferrugineae e basi triangulari subulato-attenuatae puberulae; folia crasse coriacea petiolata opposita, petiolo crassiusculo 2–6 mm. longo minute puberulo; lamina elliptico-oblonga vel anguste elliptica 3–5.5 cm. longa 1.2–2.5 cm. lata apicem versus paullo attenuata, apice ipso obtuso, basi acuta, supra fusca vel viridiuscula lucida glabra, costa paullo elevata, venis manifestis saepe pallidis non elevatis, subtus pallidior, ubique dense minute puberula, costa gracili elevata, nervis lateralibus utroque latere c. 7 angulo c. semirecto adscendentibus fere rectis gracilibus prominentibus prope marginem conjunctis, nervulis inconspicuis laxe reticulatis; flores masculi

terminales sessiles aggregati numerosi; calyx late campanulatus fere 1 mm. longus truncatus vel obsolete remoteque denticulatus extus dense minute puberulus, discum vix duplo superans; corolla extus glutinosa et sparse minute puberula, tubo crasso 4.5 mm. longo 1.5 mm. crasso fauce nudo, lobis 4 rotundatis patentibus 1–1.2 mm. longis apice rotundatis et interdum minute apiculatis intus glabris.—Brazil: Woods near Oeiras, Piauhy, June, 1839, *Gardner 2460* (Herb. Kew., type).

Alibertia Gardneri is a close relative of *A. rigida* Schum., the latter being well distinguished, however, by its broader and more rigid leaves, broadly rounded at the apex and sessile or almost so.

Kotchubaea sericantha, sp. nov.—Arbor 12-metralis, ramulis crassis fusco-ferrugineis subteretibus glabris, internodiis plerumque 1.5–2.5 cm. longis; stipulae persistentes erectae et adpressae ferrugineae glabrae late triangulares basi breviter connatae c. 13 mm. longae acutiusculae; folia breviter petiolata opposita coriacea, petiolo crasso 1.5–2 cm. longo; lamina obovata vel obovato-oblonga 14–21 cm. longa 7–10 cm. lata apice obtusa vel rotundata et abrupte breviterque apiculata, acumine c. 6 mm. longo obtuso, basin versus longe sensim attenuata vel basi acuta, supra glabra, interdum lucida, costa elevata, venis vix elevatis, subtus fere concolor, glabra vel parcissime scaberula, costa crassiuscula elevata, nervis lateralibus utroque latere c. 12 angulo lato adscendentibus gracilibus prominentibus fere rectis prope marginem conjunctis, nervulis inconspicuis; flores masculi ad apices ramorum fasciculati pauci vel in cymulas terminales umbelliformes paucifloras dispositi, pedicellis rigidis 1–2 cm. longis glabris vel obscure scaberulis; calyx anguste campanulatus extus glaber 10–13 mm. longus truncatus intus densissime sericeo-pilosus; corolla alba extus densissime sericea, tubo 5.5–7 cm. longo 3.5–7 mm. crasso fauce paullo ampliato et usque ad 1 cm. lato, laciniis 8–10 linearibus intus dense tomentulosis 2.5–4 cm. longis patentibus attenuatis.—Peru: Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., in forest, April, 1930, *G. Klug 1260* (Herb. Field Mus. No. 622,220, type); also *No. 1128*, with the same data.

Only a single species of *Kotchubaea* has been described previously, *K. insignis* Fisch., which is known from northern Brazil and from French Guiana. It differs from *K. sericantha* in having the corolla tube glabrous on the outer surface.

Retiniphyllum adinanthum, sp. nov.—Arbuscula 3-metralis, ramulis crassiusculis obtuse tetragonis ochraceis sparse lenticellatis glabris; stipulae non visae; folia breviter petiolata opposita, petiolo gracili glabro 2 cm. longo; lamina firme membranacea oblongo-elliptica c. 27 cm. longa et 11.5 cm. lata, apice subrotundato abrupte cuspidato-acuminata, acumine anguste triangulari 1.5 cm. longo obtuso, basi acuta, glabra, supra viridis, costa venisque elevatis, nervulis prominulis, subtus pallidior, costa gracili elevata, nervis

lateralibus utroque latere c. 12 angulo lato adscendentibus pallidis gracilibus prominentibus fere rectis prope marginem conjunctis, nervulis prominulis reticulatis; inflorescentia terminalis spicata 2.5 cm. longe pedunculata 13.5 cm. longa c. 12 mm. lata, rhachi crassiuscula minute puberula, floribus in glomerulos 0.5–2.5 cm. distantes dense multifloros oppositos calyculo dense minute puberulo lato truncato 3.5 mm. lato et 2 mm. alto involucratos aggregatis, glomerulorum paribus bractea breviter vaginante patelliformi subtectis, floribus arcte sessilibus; hypanthium minutum vix 0.6 mm. longum, calyce campanulato minutissime puberulo 2.2 mm. longo obsolete denticulato; corolla alba in alabastro obtusa extus densissime et pallide puberulo-tomentella, tubo cylindraceo 4.5 mm. longo, lobis 5 patentibus anguste oblongis obtusis 3.5 mm. longis; stamina prope basin tubi inserta, filamentis brevissimis, antheris linearibus; cetera ignota.—Peru: In clearing, Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., February–March, 1930, *G. Klug 988* (Herb. Field Mus. No. 612,612, type).

The generic position of this plant is very uncertain, and I doubt that it belongs in the genus *Retiniphyllum*, but it has been impossible to refer it more satisfactorily to any other genus. The flowers are so immature that it is impossible to determine the character of the fruit.

Retiniphyllum Kuhlmannii, sp. nov.—Arbor, ramulis gracilibus fuscis subteretibus glabris; folia petiolata opposita coriacea, petiolo 9–13 mm. longo crassiusculo glabro; lamina late elliptica usque ad elliptico-oblonga 5–8.5 cm. longa 3.5–5 cm. lata abrupte acuta vel acutiuscula, acumine latissime triangulari obtuso, basi rotundata usque ad acuta, glabra, supra in sicco fusca, costa impressa, venis vix elevatis, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 15 gracillimis vix prominulis fere rectis remote a margine conjunctis, nervulis vix prominulis laxe reticulatis; inflorescentia terminalis spicata laxe multiflora prope basin interrupta 3 cm. longe pedunculata, 12 cm. longa, rhachi glabra, floribus arcte sessilibus; bracteae cum bracteolis in cupulam brevissimam truncatam connatae; hypanthium glabrum 1.5 mm. longum, calyce tubuloso 3–3.5 mm. longo 2 mm. lato brevissime remote denticulato, dentibus triangularibus acutis erectis; corolla pallide rosea in alabastro acutiuscula extus densissime sericea, tubo gracili supra paullo dilatato 1 cm. longo, lobis lineari-lanceolatis 6–7 mm. longis patentibus vel subreflexis attenuatis intus dense sericeis; filamenta lacinias corollae aequantia dense adpresso-pilosa; stylus adpresso-pilosus gracilis longe exsertus.—Brazil: Rio Verde, Chapadão, Matto Grosso, in swamps, April, 1918, *J. G. Kuhlmann 2343-K* (Herb. Berol., type).

Referable to the subgenus *Commianthus*, and related to *R. discolor* (Spruce) Muell. Arg. and *R. pallidum* Muell. Arg., both of which were collected along the Rio Negro.

Erithalis fruticosa L.—This common species of the West Indies is known in Mexico only from Yucatan, and in Central America it probably is unknown except on some of the islands off the coast. A recent collection permits its report as a member of the flora of British Honduras: All Pines, edge of mangrove swamp, August, 1930, *W. A. Schipp 583;* a shrub 1 m. high with white flowers and black fruits; occasional.

Machaonia grandis Wernham, Journ. Bot. 51: 220. 1913.

The species was based upon *Triana 1625.* The following collection, although distributed under another number, is perhaps a duplicate of the type: Colombia: Provincias de Chocó and Barbacoas, April, 1853, *Triana 3135* (Herb. Paris).

Machaonia Williamsii, sp. nov.—Frutex vel arbuscula, ramulis gracilibus rigidis dense velutino-pilosulis ochraceis, internodiis plerumque 2–4.5 cm. longis; stipulae erectae persistentes puberulae 2.5–3.5 mm. longae e basi latissima subulato-attenuatae; folia petiolata opposita, petiolo gracili 6–11 mm. longo dense pilosulo; lamina membranacea oblongo-elliptica vel ovato-elliptica 5–9.5 cm. longa 2–3.7 cm. lata sensim vel abrupte acuminata, acumine acuto, basi acuta vel subobtusa, interdum abrupte contracta et breviter decurrens, supra viridis, dense breviterque asperulo-pilosula, costa venisque subimpressis, subtus paullo pallidior, dense pilis albidis patentibus velutino-pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 8 angulo acuto adscendentibus gracilibus prominentibus arcuatis prope marginem conjunctis; inflorescentia terminalis cymoso-paniculata 2–5 cm. longe pedunculata dense multiflora rotundato-pyramidalis 2.5–10.5 cm. longa et 3.5–11 cm. lata, ramulis densissime patenti-pilosulis, bracteis brevibus linearibus vel subulatis, floribus dense congestis sessilibus vel brevissime pedicellatis; hypanthium oblongo-obovoideum c. 1 mm. longum dense albo-pilosulum; calyx 5-partitus, laciniis c. 0.8 mm. longis late ovatis vel ovalibus apice obtusis vel rotundatis sparse minute pilosulis; corolla in alabastro apice late rotundata extus glabra 2.5–3 mm. longa; fructus cuneato-obovatus 3–3.3 mm. longus albido-puberulus subcompressus basin versus paullo angustatus apice obtusus calyce persistente coronatus.—Peru: Juan Guerra, near Tarapoto, Dept. San Martín, alt. 360–900 m., December 30, 1929, *Llewelyn Williams 6886* (Herb. Field Mus. No. 614,632, type). Río Mayo, Tarapoto, in forest, December, 1929, *Williams 6255, 6248, 6246.*

From Peru there has been reported only a single species of this genus, *Machaonia peruviana* Wernham, whose type was collected by Pavón at some unknown locality, perhaps even in Ecuador. That is described as having glabrate leaves and narrowly lanceolate calyx lobes. *M. Williamsii* is closely related to *M. acuminata* H. & B.,

which ranges from Brazil to Ecuador and Central America, but in that the fruits are much longer (5–6 mm.) than in *M. Williamsii*.

Guettarda sericea Muell. Arg. Flora 58: 450. 1875.

Paraguay: Espinillar, Bco. Branco, October, 1895, *J. D. Anisits 2236* (Herb. Stockholm); a shrub 2–3 m. high. The collection represents a great extension of range for the species, reported heretofore from Bahia. The Paraguay specimens seem to differ in no important respect from northern material, although the leaves are somewhat smaller and have a more dense pubescence on the lower surface.

Guettarda colubrinoides, sp. nov.—Ramuli graciles teretes fusco-ferruginei, novellis sparse strigosis, internodiis elongatis; stipulae deciduae, non visae; folia petiolata opposita magna firme membranacea, petiolo gracili 2–3.2 cm. longo dense adpresso-pilosulo vel serius glabrato; lamina ovalis vel ovali-elliptica 13–15.5 cm. longa 8–10 cm. lata apice acuta vel breviter acute acuminata basi lata leviter vel profunde cordata, supra fusco-olivacea, tantum ad venas puberula, aliter glabra, costa venisque prominulis, subtus paullo pallidior, ad venas sparse subadpresso-pilosa, inter venas minutissime sparseque strigillosa, costa gracili elevata, nervis lateralibus utroque latere c. 9 angulo semirecto vel angustiore adscendentibus gracillimis prominentibus arcuatis prope marginem conjunctis, nervulis prominulis pallidis laxe reticulatis; inflorescentiae cymosae axillares solitariae vel ob internodia abbreviata spurie aggregatae dense pauci- vel multiflorae c. 1 cm. latae 1 cm. longe vel brevius pedunculatae, pedunculo dense adpresso-pilosulo, floribus arcte sessilibus, bracteis magnis ellipticis vel oblongis brunnescentibus obtusis extus sparse sericeis calyce multo longioribus; hypanthium subglobosum fere 1 mm. longum densissime ochraceo-pilosulum; calyx tubulosus 1.7 mm. longus ferrugineus sparse puberulus truncatus, in anthesi saepe inaequaliter fissus; corolla extus minute cinereo-sericea, tubo gracillimo 13 mm. longo 1 mm. crasso supra vix dilatato, lobis 4 patentibus 3 mm. longis oblongis obtusis intus glabris; antherae oblongae semiexsertae.—Mexico: Paso del Carrizal, Tabasco, May 4, 1890, *J. N. Rovirosa 787* (Herb. Kew., type).

Among the few Mexican species of the genus, this is set apart by the very large, thin, nearly glabrous leaves, which are conspicuously cordate at the base.

Guettarda sabiceoides Standl. Field Mus. Bot. 4: 289. 1929.

Colombia: Prov. Barbacoas, Río Patiq, April, 1853, *Triana 3192* (Herb. Paris).

Guettarda hirsuta (R. & P.) Pers. Syn. Pl. 1: 200. 1805. *Laugeria hirsuta* R. & P. Fl. Peruv. 2: 22. *pl. 45, f. 2.* 1799.

Ecuador: At the base of Mount Chimborazo, 1,200 m., September, 1860, *R. Spruce 6225* (Herb. Kew.). A tree 9 m. high; corolla sordid-violaceous, the limb white.

Guettarda rhamnifolia, sp. nov.—Ramuli crassi teretes, internodiis valde abbreviatis plerumque 2–3 mm. longis dense adpresso-pilosis; stipulae deciduae rotundato-ovatae 5–6 mm. longae pallidae cuspidato-apiculatae extus dense adpresse ochraceo-pilosae; folia petiolata subcoriacea mediocria opposita, petiolo crasso 8–12 mm. longo dense subadpresse ochraceo-hispidulo; lamina ovalis, oblongo-elliptica vel subrotundata, 4–6.5 cm. longa, 3–4.5 cm. lata, apice late rotundata vel rare late obtusa et brevissime obtuse apiculata, basi rotundata usque ad acuta et vulgo abrupte contracta et breviter decurrens, supra in sicco fusca, lucida, glabra, tantum ad venas puberula, costa venisque profunde impressis, venulis subimpressis, subtus pallidior, ubique dense laxeque fulvo-tomentosa, venis tomento fere occultis, nervis lateralibus utroque latere c. 7 angulo acuto adscendentibus arcuatis prope marginem conjunctis; cymae axillares solitariae pauciflorae non vel brevissime ramosae usque ad 1 cm. longe pedunculatae, pedunculo rigido crasso dense fulvo-tomentoso, floribus arcte sessilibus; drupa ovalis vel obovoidea lucida glabra 8–9 mm. longa et 6–7 mm. lata, basi et apice rotundata vel basi acutiuscula 2–3-locularis.—Brazil: Without locality, *Burchell 6649* (Herb. Kew., type).

A member of Mueller's section *Matthiola;* distinguished from related Brazilian species by the very abundant, loose tomentum of the lower leaf surface, and by the rounded or very obtuse leaf apex.

Guettarda hypoglauca, sp. nov.—Ramuli crassi subteretes fusco-ferruginei subglauci rimosi, novellis densissime patenti-pilosis, internodiis valde abbreviatis plerumque 3–4 mm. longis; stipulae deciduae rotundato-ovatae 6–7 mm. longae acutae extus dense fulvo-pilosae, intus sericeae; folia petiolata crasse membranacea opposita magna, petiolo gracili vel crassiusculo 1.5–3 cm. longo dense pilis gracilibus patentibus ochraceis vel fulvis piloso; lamina ovata vel deltoideo-ovata 9.5–14 cm. longa 6–8.5 cm. lata acuta vel subabrupte acuminata, basi obtusa vel rotundata, interdum abrupte contracta et breviter decurrens, supra in sicco fusca, ubique dense hispidulo-pilosa, mollis, costa venisque prominulis, subtus discolor, incana, ubique densissime pilis subadpressis vel subpatentibus griseis plus minusve intertextis pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 10 angulo semirecto adscendentibus gracilibus prominentibus leviter arcuatis vel fere rectis prope marginem conjunctis, nervulis crebris transversis parallelis tenuibus pilis fere occultis; cymae axillares solitariae dense multiflorae 1.5–2 cm. latae c. 1 cm. longe pedunculatae petiolis vix longiores, breviter dichotomae, pedunculo crasso densissime fulvo-piloso, floribus arcte sessilibus, bracteis filiformibus densissime fulvo-pilosis calycem aequantibus vel longioribus; hypanthium 1.5 mm. longum densissime

longipilosum, calyce tubuloso-campanulato truncato 2.5–3 mm. longo extus dense longeque piloso; corolla extus dense adpresso-pilosa, tubo gracili c. 2 cm. longo 2 mm. lato supra vix dilatato, lobis 5 adscendentibus 3–4 mm. longis oblongis apice rotundatis intus puberulis vel breviter pilosis; antherae ut stylus inclusae.—Brazil: "Environs de Rio de Janeiro et d'Ouro Preto," 1883–84, *A. Glaziou 14950* (Herb. Kew., type).

The plant belongs to the section *Cadamba*, and is related to *G. viburnoides* C. & S., likewise a Brazilian species. From all the forms of that species, however, *G. hypoglauca* differs in its exceedingly copious pubescence consisting of spreading or only laxly appressed, long hairs.

Anisomeris Englesingii (Standl.), comb. nov. *Chomelia Englesingii* Standl. Trop. Woods 16: 45. 1928.

The species was described from the Atlantic coast of Nicaragua. It may now be reported from Panama: Caño Quebrado, Canal Zone, June, 1914, *H. Pittier 6659* (Herb. Berol.). The Panama specimens differ from the type only in having the leaves more abundantly pilose on the under surface. The species is not listed in the writer's *Flora of the Panama Canal Zone.*

Anisomeris Klugii, sp. nov.—Frutex 2-metralis, ramulis gracilibus subteretibus ochraceis, novellis dense strigoso-sericeis, internodiis plerumque brevibus; stipulae persistentes erectae brunneae glabratae anguste triangulares vel lineari-subulatae 2.5–3.5 mm. longae; folia breviter petiolata opposita, petiolo gracili 3–6 mm. longo strigoso vel glabrato; lamina firme membranacea oblongo-ovata, oblongo-elliptica vel lanceolato-elliptica, 4–7 cm. longa, 1.5–2.5 cm. lata, abrupte caudato-acuminata, acumine longo angusto attenuato, basi acuta vel basin versus angustata, supra viridis, glabra, costa venisque subimpressis, subtus vix pallidior, ad costam venasque strigosa, aliter glabra, costa gracili elevata, nervis lateralibus utroque latere c. 5 angulo acuto adscendentibus gracilibus prominentibus arcuatis prope marginem conjunctis, inter nervulos prominulos reticulatos minute lineolata; flores in axillis solitarii vel pauci et fasciculati, sessiles vel brevissime pedicellati; hypanthium vix 1 mm. longum strigosum, calyce tubuloso 2 mm. longo strigoso-sericeo, laciniis linearibus suberectis 2–2.5 mm. longis; corolla alba extus dense sericea, tubo fere filiformi 18 mm. longo supra non dilatato, laciniis 4 lineari-attenuatis 4 mm. longis intus glabris.—Peru: Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., in forest, December, 1929, *G. Klug 661* (Herb. Field Mus. No. 612,620, type).

Probably conspecific is *Killip & Smith 28738* from Santa Rosa on the lower Río Huallaga, Dept. Loreto. The specimen is sterile and the branches armed with spines in the leaf axils. In the type specimen the branches are unarmed.

Anisomeris occidentalis (Muell. Arg.), comb. nov. *Chomelia occidentalis* Muell. Arg. Flora 58: 452. 1875.

The type was collected in western Brazil by Tamberlik. The following additional collections may be reported: Brazil: Without locality, *Claussen 615* (Herb. Berol.). Goyaz, *Glaziou 21493* (Herb. Berol., Herb. Stockholm).

Anisomeris ribesioides (Benth.) Rusby, var. **villosula** (Muell. Arg.), comb. nov. *Malanea ribesioides* var. *villosula* Muell. Arg. Flora 58: 453. 1875. *Chomelia ribesioides* var. *villosula* Muell. Arg. in Mart. Fl. Bras. 6^5: 41. 1881.

Anisomeris brasiliana (A. Rich.), comb. nov. *Chomelia brasiliana* A. Rich. Mém. Mus. Hist. Nat. Paris 5: 183. 1834.

Anisomeris pedunculosa (Benth.), comb. nov. *Chomelia pedunculosa* Benth. Linnaea 23: 445. 1850.

Anisomeris tristis (Muell. Arg.), comb. nov. *Chomelia tristis* Muell. Arg. Flora 58: 452. 1875.

Anisomeris pubescens (C. & S.), comb. nov. *Chomelia pubescens* C. & S. Linnaea 4: 187. 1829.

Anisomeris oligantha (Muell. Arg.), comb. nov. *Chomelia oligantha* Muell. Arg. Flora 58: 452. 1875.

Anisomeris vulpina (Muell. Arg.), comb. nov. *Chomelia vulpina* Muell. Arg. Flora 58: 452. 1875.

Anisomeris estrellana (Muell. Arg.), comb. nov. *Chomelia estrellana* Muell. Arg. Flora 58: 452. 1875.

Anisomeris parviflora (Muell. Arg.), comb. nov. *Chomelia parviflora* Muell. Arg. Flora 58: 453. 1875.

Anisomeris malaneoides (Muell. Arg.), comb. nov. *Chomelia malaneoides* Muell. Arg. Flora 58: 452. 1875.

Anisomeris transiens (Muell. Arg.), comb. nov. *Chomelia transiens* Muell. Arg. in Mart. Fl. Bras. 6^5: 457. 1888.

Anisomeris sessilis (Muell. Arg.), comb. nov. *Chomelia sessilis* Muell. Arg. Flora 58: 451. 1875.

Brazil: Cuyabá, *Riedel 1117* (Herb. Leningrad). S. L. de Caceres, Matto Grosso, in 1911, *Hoehne 4606;* flowers white.—Peru: Seringal Auristella, Río Acre, April, 1911, *Ule 9860;* a shrub or tree 6–18 m. high; flowers white.

The Peruvian specimen shows slight differences from the others, but it probably is only a form of *A. sessilis*.

Anisomeris juruensis, sp. nov.—Frutex vel arbuscula 5-metralis, ramulis teretibus gracilibus cinereis in axillis spinis rigidis divari-

catis validis paucis c. 1 cm. longis armatis, novellis brunneis minute adpresso-pilosulis, internodiis brevibus; stipulae subpersistentes erectae tenues brunneae e basi lata abrupte subulato-attenuatae extus minute adpresso-pilosulae; folia mediocria breviter petiolata membranacea opposita, petiolo gracili 3–6 mm. longo puberulo; lamina elliptica vel oblongo-elliptica, interdum ovato-elliptica, 4–8 cm. longa, 2–3.5 cm. lata, abrupte longiacuminata, acumine angusto longe attenuato c. 1 cm. longo, basi acuta usque ad rotundata, supra in sicco fusca, tantum ad venas sparse puberula vel fere glabra, venis non elevatis, subtus brunnescens, ad venas minute adpresso-pilosula, in axillis barbata, costa gracili elevata, nervis lateralibus utroque latere c. 7 angulo recto vel paullo latiore adscendentibus valde arcuatis gracilibus prominentibus prope marginem conjunctis, nervulis subimpressis laxe reticulatis, pagina inter nervulos creberrime pulchre lineolata; flores axillares solitarii, pedicellis gracilibus 1–2 mm. longis, bracteolis lanceolatis hypanthium aequantibus vel longioribus; hypanthium oblongum 1–1.5 mm. longum sparse minute strigillosum; calyx 1.5 mm. longus ad medium vel paullo profundius 4-fidus extus dense strigillosus, laciniis lineari-attenuatis erectis; corolla alba extus dense ochraceo-sericea, tubo gracillimo 15–17 mm. longo fere 1 mm. crasso supra vix dilatato, lobis 4 lanceolato-linearibus 5–6 mm. longis patentibus attenuatis intus glabris; antherae oblongae semiexsertae.—Brazil: Bom Fin, Rio Juruá, Amazon region, November, 1900, *E. Ule 5131* (Herb. Kew., type).

Because of the form of the calyx, this plant is related to *Anisomeris brasiliana* (A. Rich.) Standl., also Brazilian. That species differs in its merely acute or subacute leaves with less numerous pairs of veins and in its more abundant pubescence consisting of long hairs.

Anisomeris parvifolia, sp. nov.—Frutex vel arbor dense ramosa in axillis spinis gracilibus 1.5–2 cm. longis armata, ramulis gracilibus teretibus fusco-olivaceis, novellis dense pilis rigidulis subpatentibus brevibus pilosis, internodiis plerumque abbreviatis; stipulae persistentes suberectae dense strigosae late ovato-triangulares 1.5–2 mm. longae subulato-acuminatae; folia longiuscule petiolata opposita, petiolo gracili 8–17 mm. longo pilis ochraceis laxe adscendentibus dense piloso; lamina membranacea ovata, oblonga vel ovato-elliptica, 2–4 cm. longa, 1–1.7 cm. lata, acuta vel brevissime acuminata, basi obtusa vel acuta, interdum basin versus sensim angustata, supra sparse hispidula, costa venisque prominulis, inter nervulos lineolata, subtus paullo pallidior, ubique pilis brevibus subpatentibus hispidulo-pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 5 angulo acuto adscendentibus gracilibus prominentibus arcuatis juxta marginem conjunctis; flores axillares solitarii, pedicellis filiformibus 9–14 mm. longis dense pilosis, bracteolis filiformibus hypanthio brevioribus; hypanthium obovoideo-oblongum 1.5 mm. longum basi acutum dense ochraceo-pilosulum; calycis tubus cylindraceus 1.2 mm. longus adpresso-pilosus, laciniis c. 1.5 mm. longis lineari-attenuatis

subrecurvis viridibus; corolla extus pilosulo-sericea, tubo gracili 6 mm. longo superne non dilatato, lobis 4 lanceolato-oblongis 4 mm. longis patentibus abrupte acuminatis intus glabris.—Brazil (State of Paraná): Serra do Mar, Itupava, in silva primaeva, alt. 460 m., September 17, 1908, *P. Dusén 6728* (Stockholm herb., type). Without definite locality, November, 1914, *Dusén 15824* (S). Kilometra 60, in silva primaeva, *G. Jänssan 685a* (S). Volta Grande, in silva primaeva, September, 1915, *Dusén 17194* (S).

The specimens were referred by the collector to *Chomelia Vauthieri* Muell. Arg. I have seen no specimens of that species, described from Serra dos Orgâos, but according to description it differs in having much larger leaves with sparse appressed pubescence, and a much longer corolla.

Anisomeris monantha Schum. in herb., sp. nov.—Frutex vel arbuscula, ramis gracilibus subteretibus fuscis vel fusco-ferrugineis inermibus vel in axillis sparse spinis brevibus gracilibus armatis, ramulis dense pilis brevibus ochraceis subadpressis pilosulis, internodiis brevibus; stipulae subpersistentes ovato-triangulares c. 1 mm. longae acutae vel acuminatae adpresso-pilosulae erectae; folia parva membranacea petiolata opposita, petiolo gracillimo 3–5 mm. longo dense adpresso-pilosulo; lamina ovata vel lanceolato-ovata 1.5–4 cm. longa 7–15 mm. lata acuta vel sensim longiuscule acuminata basi acuta, supra in sicco fusco-viridis, glabra vel ad venas pilosula, venis vix prominulis, subtus fere concolor, ad venas dense adpresso-pilosula, costa gracili elevata, nervis lateralibus utroque latere 4–5 arcuatis gracillimis prominentibus angulo acuto adscendentibus, pagina inter venas pulchre et arctissime parallele striolata; flores numerosi axillares solitarii, pedicellis filiformibus 3–6 mm. longis adpresso-pilosulis, bracteolis filiformibus hypanthio brevioribus; hypanthium oblongum 1 mm. longum basi obtusiusculum dense ochraceo-strigosum; calycis tubus fere 1 mm. longus strigosus, lobis 4–5 filiformi-linearibus aequilongis patentibus vel recurvis; corolla extus subdense strigosa, tubo gracillimo 7 mm. longo supra vix dilatato, lobis 4 lanceolato-oblongis 2.5–3 mm. longis obtusis intus glabris; antherae inclusae; stylus filiformis inclusus glaber.—Brazil: Rio de Janeiro, 1876–77, *Glaziou 8749* (Herb. Berol., type; fragm. and photo. in Herb. Field Mus.; duplicates in herb. Stockholm, herb. Kew., and herb. Leningrad).

The species is well marked by its small leaves, and solitary flowers with exceptionally short corollas.

Anisomeris modesta, sp. nov.—"Frutex spinosus," ramulis inermibus teretibus fusco-ferrugineis, novellis dense fulvo-hirtellis, internodiis abbreviatis; stipulae subpersistentes ovato-triangulares c. 1 mm. longae acutae vel acuminatae hirtellae; folia membranacea parva petiolata opposita, petiolo 1.5–3 mm. longo dense hirtello; lamina oblongo-ovata, ovata vel late ovata 7–19 mm. longa 5–9 mm.

lata acuta vel obtusa et abrupte apiculata, basi obtusa vel rotundata, supra in sicco fusca, dense pilosa vel serius glabrata, inter venas striolato-venulosa, subtus fere concolor, densissime hirtello-pilosa, costa prominente, nervis lateralibus utroque latere 3–4 inconspicuis; flores axillares solitarii, pedicello filiformi 3–7 mm. longo dense patenti-piloso, bracteolis filiformibus hypanthio brevioribus; hypanthium 0.8 mm. longum late oblongum dense pilis pallidis patentibus pilosum; calycis tubus c. 0.5 mm. longus breviter hirtellus, lobis filiformi-linearibus patentibus vel recurvis 1–1.5 mm. longis; corolla alba extus pilis albidis patentibus vel subadpressis pilosa, tubo 5–6 mm. longo supra paullo dilatato 0.8 mm. crasso, lobis oblongo-ovatis 3.5–4.5 mm. longis versus apicem obtusum attenuatis intus glabris patentibus; antherae inclusae; stylus glaber.—Brazil: In silva secundaria ad São José dos Campos, Lagôa do Veado, State of São Paulo, September 23, 1909, *A. Löfgren 4127* (Herb. Berol., type).

The plant is similar in most characters to *A. monantha* Schum., but differs in its spreading pubescence, broader leaves, and relatively larger corolla lobes.

Anisomeris bella, sp. nov.—Frutex vel arbuscula, ramis vetustioribus spinis validis 1–2 cm. longis divaricatis armatis, ramulis subteretibus fuscis vel fusco-ferrugineis gracilibus, novellis pilis pallidis patentibus densiuscule pilosis, internodiis plerumque brevibus; stipulae ferrugineae subpersistentes 3–4 mm. longae triangulari-lanceolatae longe acuminatae erectae pilis adpressis vel subpatentibus pilosulae; folia petiolata opposita membranacea, petiolo gracili 3–7 mm. longo dense piloso vel pilosulo; lamina late ovata, lanceolato-ovata vel ovato-elliptica 1.5–3.5 cm. longa 1–2 cm. lata acuta vel longe acuminata, basi late obtusa usque ad subcordata, supra fusco-viridis, primo dense sericeo-pilosa, serius glabrata, venis vix prominulis, subtus incana, dense pilosa vel subtomentosa, interdum plus minusve glabrata, costa gracili prominente, nervis lateralibus utroque latere 5–7 angulo lato vel angusto adscendentibus gracillimis prominulis arcuatis; cymae axillares dense multiflorae capituliformes vel basi brevissime ramosae, pedunculo gracili recto vel leviter curvo 12–18 mm. longo patenti-piloso, floribus sessilibus congestis, bracteis paucis lineari-subulatis calyce brevioribus; hypanthium 1.2 mm. longum late oblongum dense albido-tomentosum; calyx c. 1.5 mm. longus ad medium 4–5-lobus lobis erectis linearioblongis vel lanceolato-subulatis acutiusculis dense pilosulis; corolla extus sparse adpresso-pilosa, tubo gracillimo 10–12 mm. longo supra vix dilatato ore 1 mm. lato, lobis 4 patentibus oblongo-ellipticis vel elliptico-ovatis 1.5 mm. longis obtusis intus glabris; antherae inclusae; stylus glaber.—Brazil: Espirito Santo do Pinhal, *F. C. Hoehne 11875* (Herb. Berol., type). Santa Rita do Passa Quatro, São Paulo, October 1, 1899, *Ernst Hemmendorff 233* (Herb. Stockholm).

Anisomeris randioides, sp. nov.—Frutex mediocris, ramulis crassis rigidis patentibus inermibus subteretibus ferrugineis dense

pilis brevibus pallidis patentibus pilosis, internodiis plerumque 1–2 cm. longis; stipulae subpersistentes late triangulares 2–3 mm. longae acuminatae erectae dense adpresso-pilosae; folia parva subcoriacea brevissime petiolata opposita, petiolo crassiusculo 1–2 mm. longo dense breviter piloso; lamina late elliptica, ovalis vel rotundato-ovata 1–2 cm. longa 8–14 mm. lata acuta vel obtusa et apiculata, basi anguste vel late rotundata, supra fusco-viridis, glabra, venis obscure impressis, subtus pallidior, dense pilis pallidis vel lutescentibus longiusculis patentibus pilosa, costa crassiuscula elevata, nervis lateralibus utroque latere 4–5 inconspicuis vix prominulis angulo acuto adscendentibus arcuatis; cymae pedunculatae 1–3-florae, pedunculo gracili 5–10 mm. longo densiuscule pilis longis patentibus piloso, floribus sessilibus; hypanthium 1.2 mm. longum sparse pilis longis patentibus pilosum; calyx tubulosus 1.5 mm. longus ad medium 4–5-lobus, lobis erectis triangulari-oblongis apice obtusis vel anguste rotundatis sparse pilosis; corolla alba extus densiuscule albo-sericea, tubo gracili cylindraceo 10 mm. longo supra 1.4 mm. lato, lobis 4 ovato-oblongis 2 mm. longis apice rotundatis subpatentibus intus glabris; antherae anguste oblongae inclusae vel semiexsertae; stylus glaber.—Brazil: Caminho Joazeiro, State of Ceará, April 23, 1910, *Alb. Löfgren 663* (Herb. Stockholm, type).

In general appearance as well as in the abundant pubescence, this plant resembles *Anisomeris sessilis* (Muell. Arg.) Standl., but in that the inflorescences are sessile and many-flowered.

Chomelia tenuiflora Benth. in Hook. Journ. Bot. 3: 235. 1841.

This species was not recorded from Colombia in the writer's recent enumeration of the Rubiaceae of that country. The following collections are in the Leningrad herbarium: Colombia: Servitá, *Karsten.* Villavicencio, *Karsten.*

Malanea forsteronioides Muell. Arg., var. **pilosa,** var. nov.—A forma typica ramis pilosis foliis supra sparse pilis longiusculis subpatentibus subtus in statu juvenili pilis pallidis longis non arcte adpressis pilosis, inflorescentiis magis pilosis recedit.—Brazil: Paraná, Paraty, ad rivulam scandens, December 30, 1911, *P. Dusén 13769* (Herb. Stockholm, type).

In the typical form of the species, represented by a large number of specimens collected in Paraná by Dusén, the leaves are glabrate and bear only closely appressed hairs.

Chiococca erubescens Wernham, Journ. Bot. 51: 322. 1913.

Wernham described this clearly distinct species from Venezuela, and it is represented by several collections from that country. Its range extends as far as French Guiana: Without locality, *Poiteau* (Herb. Leningrad).

Chione mexicana Standl. Journ. Washington Acad. Sci. 17: 340. 1927.

In a collection of Rubiaceae received for determination some time ago from the Jardin Botanique Principal of Leningrad there was found an old specimen of this species that deserves to be placed on record: Mexico: Papantla, Veracruz, in 1841, *Karwinsky 1260.* Described as a tree 6 m. high.

Ixora nicaraguensis Wernham, Journ. Bot. 50: 243. 1912. *I. rauwolfioides* Standl. Trop. Woods 11: 27. 1927.

Examination of a duplicate type of *Ixora nicaraguensis* shows that *I. rauwolfioides* differs in no essential character, or in none at all for that matter, the characters upon which the latter was separated proving to be unstable. The following specimens of the species have been examined:

Nicaragua: Chontales, *Seemann 117* (Herb. Kew., type collection). —Panama: Changuinola Valley, a small tree, March, 1924, *V. C. Dunlap 553, 566.* Progreso, Chiriquí, a small stubby tree 4.5 m. high, the trunk 7.5–10 cm. in diameter, in 1927, *Cooper & Slater 205;* a small tree 6 m. high, the trunk 7.5 cm. in diameter, common, the wood light-colored, hard and cross-grained, *Cooper & Slater 245.* Daytonia Farm, a tree 7.5–9 m. high, the trunk 7.5 cm. in diameter, *Cooper 419.* Vernacular name, "oguito."

Ixora floribunda (A. Rich.) Griseb. Cat. Pl. Cub. 134. 1866. *Siderodendron floribundum* A. Rich. in Sagra, Hist. Cub. 11: 24. 1850.

Colombia: Honda, in 1844, *Goudot* (Herb. Paris). San Miguel, Río Magdalena, Prov. Mariquita, 400 m., *Triana 1729* (Herb. Paris). Without locality, *Triana 21* (Herb. Paris).

Coussarea grandifolia Rusby, Descr. N. Sp. S. Amer. Pl. 144. 1920.

Colombia: Prov. Ocaña, 1,800 m., June, 1846–52, *L. Schlim 713* (Herb. Paris). Growing in forest; flowers violaceous.

Coussarea megalocarpa, sp. nov.—Arbuscula, ramulis crassis sparse puberulis; stipulae deciduae, non visae; folia breviter petiolata opposita, petiolo gracili 1–1.5 cm. longo puberulo; lamina firme membranacea elliptica vel oblongo-elliptica 12–18 cm. longa 4.5–8 cm. lata longe acuminata, acumine angusto longe attenuato, basi acuta, supra viridis, ad venas minute puberula, sublucida, costa venisque vix elevatis, nervulis prominulis, subtus paullo pallidior, ubique dense molliterque pilis brevissimis patentibus vel subadpressis pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 12 obliquis angulo latiusculo adscendentibus subarcuatis gracilibus pallidis prominentibus prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis capitata dense multiflora c. 1 cm. longe pedunculata, pedunculo dense griseo-puberulo

crasso, bracteis longis linearibus; hypanthium obconicum dense adpresso-pilosum; calyx campanulatus dense adpresso-pilosus, tubo truncato in lacinias lineares vel subulatas usque ad 12 mm. longas desinente; fructus magnus ovali-globosus c. 3 cm. longus et 2 cm. latus sparse puberulus vel pilosulus vel glabratus in sicco pallidus grosse costatus, basi et apice rotundatus, monospermus.—Peru: Río Mazán, near Iquitos, Dept. Loreto, April 6, 1930, *Llewelyn Williams 8171* (Herb. Field Mus. No. 614,508, type).

The species is noteworthy for the copious pubescence of the under surface of the leaves, and for the very large fruits.

Coussarea sessilifolia, sp. nov.—Frutex omnino glaber, ramulis gracilibus subteretibus in sicco pallide viridibus, internodiis elongatis; stipulae persistentes minutae vix 1 mm. longae subtruncatae et 0.5 mm. longe mucronatae; folia sessilia vel usque ad 2 mm. longe petiolata membranacea elliptica, elliptico-oblonga vel obovato-elliptica, 6.5–11 cm. longa, 3–6 cm. lata, abrupte breviter acuminata, acumine anguste triangulari-attenuato subobtuso, basin versus paullo angustata, basi ipsa anguste rotundata vel breviter cordata, supra viridis, costa venisque conspicuis sed vix elevatis, rhaphidibus minutissimis pallidis conspersa, subtus pallidior, costa gracili pallida elevata, nervis lateralibus utroque latere c. 9 angulo lato adscendentibus gracilibus prominulis inaequalibus plus minusve arcuatis prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis cymoso-paniculata graciliter 2–3 cm. longe pedunculata erecta laxissime pauciflora, ramulis gracillimis patentibus, inferioribus trifloris, superioribus 1-floris, bracteis minutis vel obsoletis, pedicellis gracilibus 4–15 mm. longis interdum sparse minutissime puberulis; hypanthium anguste clavatum c. 2 mm. longum, calyce campanulato 2 mm. longo breviter dentato, dentibus late triangularibus obtusis vel acutiusculis; corolla extus glabra in alabastro linearis obtusa 18 mm. longa, lobis linearibus tubo fere duplo longioribus.—Peru: Puerto Arturo, Yurimaguas, lower Río Huallaga, Dept. Loreto, alt. 155–210 m., November 15, 1929, in forest, *Llewelyn Williams 5084* (Herb. Field Mus. No. 614,474, type); November 19, 1929, *Williams 5201*.

In the genus *Coussarea* this plant is unusual because of the very slender branches of the open few-flowered inflorescence. Among the Peruvian species it is unique in its sessile leaves.

Coussarea ovalis, sp. nov.—Ramuli crassiusculi subteretes glabri, internodiis elongatis; stipulae persistentes erectae late rotundatae et subulato-acuminatae 8 mm. longae glabrae; folia breviter petiolata opposita, petiolo crassiusculo 12–15 mm. longo glabro; lamina subcoriacea ovalis 14–17 cm. longa, 7–9.5 cm. lata, apice rotundata et caudata, acumine oblongo-lineari c. 1 cm. longo obtuso, basi obtusa vel acuta, glabra, in sicco flavo-viridis, costa venisque supra prominentibus, venulis inconspicuis, costa subtus elevata gracili, nervis lateralibus utroque latere c. 10 angulo lato divergentibus gracilibus prominentibus fere rectis remote a margine conjunctis, venulis

prominulis laxe reticulatis; inflorescentia terminalis late thyrsoideo-paniculata sessilis vel 4 cm. longe pedunculata, 5–9 cm. longa et 4–7 cm. lata, sublaxe multiflora, basi verticillato-ramosa, ramis crassiusculis divaricatis vel late adscendentibus glabris, bracteis obsoletis, floribus sessilibus in cymulas parvas densas paucifloras dispositis; hypanthium obconicum glabrum 1 mm. longum, calyce late campanulato 1.5 mm. longo truncato glabro; corolla extus minute pulverulaceo-puberula in alabastro obtusa, tubo gracili cylindraceo 5–6 mm. longo, lobis oblongo-lanceolatis 4.5 mm. longis. —Peru: Paraíso, on the Alto Río Itaya, Dept. Loreto, alt. 145 m., October 2, 1929, *Llewelyn Williams 3355* (Herb. Field Mus. No. 614,164, type).

The leaves of this species resemble those of *C. urophylla* Standl., of Bolivia, but in that the calyx is shorter than the hypanthium, and the form of the corolla very different.

Coussarea tricephala, sp. nov.—Frutex, ramulis crassiusculis subteretibus in sicco pallide brunneis glabris, internodiis abbreviatis; stipulae (perfectae non visae) latissime ovatae obtusae minutissime puberulae; folia breviter petiolata opposita, petiolo gracili 8–13 mm. longo minute sparseque puberulo vel glabrato; lamina membranacea elliptico-oblonga 10.5–16 cm. longa 3.5–6 cm. lata longe subabrupte acuminata, acumine angusto attenuato, basin versus longiuscule angustata, basi ipsa acuta vel acuminata, supra viridis, ad costam venasque minute pilosula, aliter glabra, sparse rhaphidibus minutis conspersa, costa venisque prominulis, nervulis prominulis laxe reticulatis, subtus paullo pallidior, glabra, minute pallido-puncticulata, costa gracili elevata, nervis lateralibus utroque latere c. 13 obliquis angulo acuto adscendentibus prominentibus gracillimis prope marginem conjunctis, nervulis prominulis, inflorescentia terminalis crasse c. 7 mm. longe pedunculata e capitulis 3 crassissime 3–10 mm. longe pedunculatis dense multifloris corollis neglectis fere 1 cm. latis composita, pedunculis pallidis glabris, floribus arcte sessilibus; hypanthium columnare 2 mm. longum costato-striatum sparse minute puberulum vel glabratum, calyce late campanulato c. 2 mm. longo et 3 mm. lato pallido truncato obsolete et remotissime denticulato; corolla extus glabra vel sparse minutissime puberula, tubo gracillimo c. 2.5 cm. longo supra vix dilatato medio 1.5 mm. lato, lobis lineari-oblongis 1 cm. longis obtusis apice sparse brunneo-hispidulis.—Peru: Tarapoto, alt. 360–900 m., December 20, 1929, *Llewelyn Williams 6533* (Herb. Field Mus. No. 614,436, type).

Among the Peruvian species of *Coussarea* this is easily recognized by the form of the inflorescence, which consists of three small dense heads borne on short stout peduncles.

Coussarea benensis Britton ex Standl. Field Mus. Bot. 7: 296. 1931.

The species was described from Bolivia, but recently specimens have been seen from Brazil also: Brazil: Resaca, Rio Juruá, November 1, 1874, *J. W. H. Traill 448* (Herb. Kew.). A shrub with white flowers.

Coussarea hydrangeifolia (Benth.) Muell. Arg. Flora 58: 467. 1875. *Faramea hydrangeifolia* Benth. Linnaea 23: 451. 1850.

Although this species is a rather common and widely distributed one, it is perhaps worth while to report the following collections, which probably illustrate extensions of range: Paraguay: Río Apo, December, 1896, a shrub or small tree, *J. D. Anisits 2449* (Herb. Stockholm); a shrub 3–4 m. high, *Anisits 2454* (S).—Brazil: Cuyabá, Matto Grosso, "in cerrado minus denso," November, 1893, *G. A. Malme 1188* (Herb. Stockholm); a tree 2–3 m. high with smooth bark; flowers white, fragrant.

Faramea axillaris Standl. Field Mus. Bot. 8: 178. 1930.

Several additional collections, in better condition than those previously cited, may now be reported for this well-marked species:

Peru: Puerto Arturo, lower Río Huallaga, Dept. Loreto, a small shrub in forest, November, 1929, *Williams 5103, 5077*. Santa Rosa, lower Río Huallaga, Dept. Loreto, 155–210 m., a small shrub in forest, November, 1929, *Williams 4954*. Paraíso, Alto Río Itaya, Dept. Loreto, 145 m., a small shrub, October, 1929, *Williams 3368*.

Declieuxia fruticosa (Willd.) Kuntze, Rev. Gen. Pl. 1: 279. 1891. · *Houstonia fruticosa* Willd. ex R. & S. Syst. Veg. 3: 527. 1818.

Colombia: Anapoima, Bogotá, 700 m., *Triana 1702* (Herb. Paris). Ocaña, in savannas, *Schlim 161* (Herb. Paris).

Declieuxia fruticosa (Willd.) Kuntze, var. **guyanensis** (Muell. Arg.), comb. nov. *D. chiococcoides* HBK., var. *guyanensis* Muell. Arg. Flora 59: 435. 1876.

Colombia: Villavicencio, 300 m., *Triana 1701* (Herb. Paris).

Declieuxia Dusenii, sp. nov.—Herba perennis erecta vel decumbens 30–50 cm. alta, caulibus inferne simplicibus vel paullo ramosis teretibus viridibus glabris, internodiis saepe foliis longioribus; stipulae lineares et foliaceae vel lineari-subulatae 5–10 mm. longae glabrae, lobo filiformi breviore utrinque saepe adjecto, dorso linea angusta decurrentes, erectae; folia longe petiolata opposita, petiolo gracili 5–9 mm. longo glabro; lamina membranacea ovata, rhombeo-ovata vel anguste elliptica, 1.5–3.5 cm. longa, 0.8–1.7 cm. lata, acuta vel obtusa, rarius sensim acuminata, basin versus angustata vel saepius prope basin abrupte contracta et longiuscule decurrens, supra sparse scaberula vel glabrata, costa venisque manifestis sed vix elevatis, subtus fere concolor, glabra vel tantum ad venas scaberula,

costa gracili elevata, nervis lateralibus utroque latere 6–7 gracilibus prominulis angulo acuto adscendentibus arcuatis prope marginem conjunctis; inflorescentia magna terminalis cymoso-paniculata et angusta vel interdum anguste corymbiformis, inferne foliis magnis bracteata, cymis dense multifloris longe pedunculatis c. 2 cm. latis, bracteis parvis linearibus vel subulatis calyce vix longioribus inconspicuis; hypanthium late turbinatum 0.7–1 mm. longum glabrum; calycis laciniae hypanthio aequilongae lineares vel oblongo-lineares distantes erectae; corolla caerulea extus glabra 6–7 mm. longa, tubo gracili superne sensim dilatato, lobis oblongis obtusis vel acutiusculis tubo duplo vel triplo brevioribus; antherae breviter exsertae oblongae 1 mm. longae; stylus gracillimus exsertus; fructus didymus 2 mm. latus glaber, hemicarpiis c. 1.2 mm. longis apice rotundatis subcompressis superne nonnihil divergentibus.—Brazil: Serrinha, Paraná, in campo, December 7, 1908, *P. Dusén 7301* (Stockholm herb., type). Casa Ypiranga, Paraná, locis graminosis, January, 1914, *Dusén 14004* (S). Villa Velha, Paraná, in rupibus, October, 1914, *G. Jänssan 1247a* (S). Serra do Mar, Ypiranga, Paraná, in graminosis, February, 1904, *Dusén 3639* (S). Prov. São Paulo, 1816–21, *Auguste de Saint-Hilaire 1549* (Herb. Paris). Without locality, 1861–62, *J. Weir 442* (Herb. Kew.).

There are only a few species of *Declieuxia* that have petiolate leaves, and this one seems to be related to *D. clinopodioides* Muell. Arg., described from the state of Bahia. I have seen no material of *D. clinopodioides*, but, according to Mueller's description, its inflorescence is comose because of the numerous long bracts, which equal or exceed the flowers. In *D. Dusenii* the bracts are very small and inconspicuous.

Cephaelis chiapensis Standl. Field Mus. Bot. 4: 295. 1929. *Evea chiapensis* Standl. Contr. U. S. Nat. Herb. 23: 1392. 1926.

The type was collected at Finca Mexiquito, Chiapas, Mexico, *Purpus 6928*. The species extends also to northern Central America: Guatemala: Retalhuleu, April, 1877, *Bernoulli & Cario 1710* (Herb. Berol.).

Cephaelis surinamensis Standl. Field Mus. Bot. 4: 335. 1929.

One additional collection of the species has been examined recently: Surinam: Forest of Zandery, May, 1916, *J. A. Samuels 524* (Herb. Berol.).

Cephaelis tontaneoides (Britt. & Standl.) Williams & Cheesman, Fl. Trin. Tobago 2: 41. 1928. *Evea tontaneoides* Britt. & Standl. Journ. Washington Acad. Sci. 13: 106. 1923. *Cephaelis tontaneoides* Standl. Field Mus. Bot. 8: 183. 1930.

The names cited above relate to a comedy of errors such as, it is to be hoped, only infrequently relieves the otherwise dry pages devoted to descriptions of new species of plants.

Evea tontaneoides Britt. & Standl. was based upon *Broadway 9774* from Caparo, Trinidad, the type specimen being in the herbarium of the Trinidad Botanic Garden. The species was transferred quite properly to *Cephaelis* by Williams and Cheesman in their enumeration of the Rubiaceae of Trinidad and Tobago. In publishing the second *Cephaelis tontaneoides* in 1930, the writer quite overlooked the previous publication of *Evea tontaneoides*, and the name *Cephaelis tontaneoides* had not been listed in the Gray Herbarium card catalogue of new species. The two species, then, were published quite independently, the *C. tontaneoides* of 1930 being based on *De La Cruz 4239*, from British Guiana.

The ending of the comedy is a happy one, however, for it turns out that all the names relate to the same species, which is known at present from Trinidad, British Guiana, French Guiana, and the region of Pará in Brazil. The confusion is, fortunately, less than would have been the case had two distinct plants been described under the same specific name.

Cephaelis timbiquensis Standl. Field Mus. Bot. 7: 81. 1930.

An additional collection may be reported for this species, which has been known heretofore only from the type specimen: Colombia: Chocó and Barbacoas, 1851–57, *Triana 1672* (Herb. Paris). Vernacular name, "amargo."

Cephaelis axillaris Sw. Prodr. Veg. Ind. Occ. 45. 1788. *C. pseudaxillaris* Wernham, Journ. Bot. 55: 284. 1917.

In the enumeration of the Rubiaceae of Colombia it was stated that Wernham's name was perhaps a synonym of *C. axillaris*. I have now examined a sheet of the type collection of *C. pseudaxillaris* in the Paris herbarium, *Triana 1689* from Chocó and Barbacoas, Colombia. I see no good reason for considering the specimen to be different from *C. axillaris*. Triana gives the vernacular name as "amargo."

Cephaelis tomentosa (Aubl.) Vahl, Eclog. Amer. 1: 19. 1796. *Tapogomea tomentosa* Aubl. Pl. Guian. 1: 160. 1775.

Only a single collection of this common species was reported in the recent enumeration of the Rubiaceae of Ecuador. One additional record may be reported: Ecuador: Zamora, January, 1882, *Poortmann 349* (Herb. Paris).

One collection from Colombia also is worthy of citation, because the label supplies a local name for the plant: Colombia: Chocó and Barbacoas, 70 m., *Triana 1633* (Herb. Paris). Vernacular name, "boca de sapo."

Cephaelis setifera Standl. Field Mus. Bot. 7: 80. 1930.

The following additional collections have been examined recently: Colombia: Servitá, Villavicencio, Llano de San Martín, *Karsten* (Herb. Leningrad). Between Servitá and Villavicencio, Prov. Bogotá, 400–1,000 m., *Triana 1636* (Herb. Paris).

Cephaelis bella, sp. nov.—Frutex omnino glaber, ramulis gracilibus teretibus viridibus, vetustioribus olivaceis, internodiis brevibus vel elongatis; stipulae erectae persistentes virides in vaginam truncatam 2–2.5 mm. longam connatae, dorso setis subulatis 2 brevissimis onustae; folia breviter petiolata opposita, petiolo gracili 6–10 mm. longo; lamina crasse membranacea elliptica vel late ovato-elliptica 9.5–13.5 cm. longa 4–8 cm. lata acuta vel abrupte acuta, basi acuta vel acuminata vel saepius abrupte contracta et longe angusteque decurrens, supra laete viridis, costa venisque pallidis prominentibus, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere c. 9 obliquis angulo latiusculo abeuntibus gracilibus prominentibus arcuatis juxta marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis capitata 3–7 mm. longe pedunculata erecta, capitulis bracteis 4 magnis involucratis, bracteis exterioribus viridibus ovato-orbicularibus 1.5–2.5 cm. longis et aequilatis, apice acutis vel rotundatis et subulato-mucronatis, basi late rotundatis vel truncatis, sequentibus 2 paullo minoribus, intimis reductis late ovatis viridibus acutis; flores sessiles; hypanthium glabrum cylindraceum 1 mm. longum, calyce aequilongo campanulato pallido remote et obscure denticulato; corolla extus glabra in alabastro obtusa, tubo 9–13 mm. longo crassiusculo supra paullo sensim dilatato fauce 3.5 mm. lato, lobis 5 oblongo-triangularibus obtusiusculis 4 mm. longis intus glabris.—Peru: Puerto Arturo, Yurimaguas, lower Río Huallaga, Dept. Loreto, alt. 155–210 m., November 10, 1929, in forest, *Llewelyn Williams 5207* (Herb. Field Mus. No. 614,352, type); November 15, 1929, edge of forest, *Williams 5071*.

A handsome plant because of the neat form of the inflorescence and the bright green color of the leaves and bracts; not very closely related to any of the other Peruvian species of the genus.

Cephaelis oinochrophylla, sp. nov.—Frutex 1.5 m. altus ramosus, ramis gracilibus subteretibus et bisulcatis glabris, internodiis 6–7 cm. longis; stipulae persistentes breviter connatae late ovatae 1–1.5 cm. longae abrupte acuminatae glabrae, acumine apice breviter bifido; folia crasse membranacea brevissime petiolata opposita, petiolo crassiusculo 3–8 mm. longo glabro; lamina elliptico-

oblonga 15–20 cm. longa 4.5–7.5 cm. lata subabrupte breviuscule acuminata, acumine angusto attenuato, basi acuta vel acutiuscula, supra in sicco fusco-viridis, glabra, costa venisque prominentibus vel prominulis, subtus in sicco intense rubro-purpurea, tantum ad venas minutissime puberula vel fere omnino glabra, costa gracili elevata, nervis lateralibus utroque latere c. 12 gracillimis prominentibus angulo fere recto abeuntibus arcuatis prope marginem conjunctis, nervulis prominentibus transversis et subparallelis vel laxe reticulatis; inflorescentia terminalis subcapitata longe pedunculata, pedunculo gracili glabro 3.5–5 cm. longo erecto et recto; inflorescentia e capitulis 3 dense paucifloris sessilibus vel brevissime pedunculatis composita, basi bracteis 2 late rotundatis 10–12 mm. longis apice late rotundatis vel abrupte apiculatis basi plus minusve saccatis fulcrata, bracteis interioribus subaequilongis apice truncatis vel latissime rotundatis, intimis angustioribus late spathulatis; flores sessiles, hypanthio cylindraceo 1 mm. longo glabro; calyx late campanulatus glaber 1.2 mm. longus ad medium vel profundius 5-lobus, laciniis ovatis, oblongis vel late ovatis acutiusculis; corolla extus glabra in alabastro apice rotundata anguste tubuloso-infundibuliformis, tubo 8–9 mm. longo supra sensim dilatato ore 2.5 mm. lato, lobis 5 triangularibus c. 1 mm. longis obtusis patentibus vel subreflexis intus sparse breviterque villosis; antherae ut stylus inclusae.—Peru: Tierra Blanca, lower Río Morona, middle Marañón, Dept. Alto Amazonas, alt. 160 m., in forest, January 10, 1925, *G. Tessmann 4913* (Herb. Berol., type).

The collector supplies the following notes: Bracts more or less deep brownish lilac; peduncles often almost wholly lilac; lower surface of the leaves colored a beautiful lilac; corolla white. The species may be recognized immediately by the brightly colored under surface of the leaf blades.

Psychotria marginata Sw. Prodr. Veg. Ind. Occ. 43. 1788.

Although this is one of the most widely distributed of the American species of *Psychotria*, it has not been reported, so far as I know, from Mexico. The following collection has been seen recently: Mexico: Teapa, Tabasco, *Linden* (Herb. Paris); flowers yellowish green.

Psychotria involucrata Sw. Prodr. Veg. Ind. Occ. 45. 1788.

In the *Trees and Shrubs of Mexico* this common American species was reported only from the state of Veracruz. As indicated by the following collections, it occurs also in Oaxaca: Without locality, in 1842, *Liebmann* (Herb. Paris). Cordillera of Oaxaca, 900 m., in 1840, *Galeotti 7182* (Herb. Kew.).

Psychotria patens Sw. Prodr. Veg. Ind. Occ. 45. 1788.

Reported in Mexico previously only from the state of Chiapas.

The following collection is referable to the species: Tabasco: Near Atasta, August, 1889, *J. N. Rovirosa 571* (Herb. Kew.).

Psychotria limonensis Krause, Bot. Jahrb. Engler 54: Beibl. 119: 43. 1916.

This species usually is easily recognized, but it approaches some of the forms of *P. trichotoma* Mart. & Gal., and certain specimens are about intermediate between the two. *Psychotria limonensis* Krause has been recorded in Mexico only from Chiapas, but the following collection is typical: Tabasco: Near Atasta, May, 1888, *J. N. Rovirosa 156* (Herb. Kew.); a shrub 3–4 m. high, common in the arroyo of Tapijuluya.

The species may be reported also from Nicaragua: Chontales, 1867–68, *R. Tate 209* (*334*) (Herb. Kew.).

Psychotria canephorantha Wernham, Journ. Bot. 55: 338. 1917.

This very distinct species, based on *Spruce 4120* from Tarapoto, Peru, of which the writer has seen two sheets, has been known heretofore only from the original collection. The following additional specimens were collected in 1929: Peru: Tarapoto, a shrub in forest, *Williams 6159, 6110, 5820, 5389, 6511.* Juan Guerra, near Tarapoto, *Williams 6872.*

Cephaelis Duckei, sp. nov.—Frutex 2–3-metralis ramosus, ramulis gracilibus subteretibus viridibus dense pilis multicellularibus elongatis patentibus pallidis villosis, internodiis 1–4 cm. longis; stipulae in vaginam 3–4 mm. longam dense villosam subtruncatam connatae, vagina in lobos 4 erectos triangulari-oblongos 1.5 mm. longos erectos desinente; folia membranacea mediocria breviter petiolata opposita, petiolo gracili 4–7 mm. longo dense villoso; lamina oblanceolato-oblonga vel anguste elliptico-oblonga 9–10.5 cm. longa 2.5–3.5 cm. lata longiuscule subabrupte acuminata, acumine angusto attenuato, basin versus longe attenuata, supra laete viridis, sparse pilis longis gracillimis patentibus villosa, costa venisque non elevatis, subtus fere concolor, sparse pilis longis patentibus villoso-pilosa, costa pallida gracili elevata, nervis lateralibus utroque latere c. 6 gracillimis prominentibus angulo acuto adscendentibus subarcuatis marginem fere attingentibus, nervulis obscuris laxe reticulatis; inflorescentia terminalis sessilis capitata 3–4-flora, bracteis c. 7 involucrata, floribus sessilibus; bracteae aurantiacae lineari-oblongae flores subaequantes 3–3.5 cm. longae 5–6 mm. latae acutae vel breviter acuminatae, basin versus paullo angustatae, utrinque, extus densius, villoso-pilosae, suberectae; calyx tubulosus 1 cm. longus 5–6 mm. latus pilosus breviter dentatus; corolla alba extus dense pilis longis gracilibus pallidis villosa, tubo crasso 2.5 cm. longo 5–6 mm. lato,

lobis 4 patentibus lanceolato-oblongis 6–7 mm. longis 2–3 mm. latis acutiusculis intus glabris; antherae subexsertae oblongo-lineares 3–4 mm. longae.—Brazil: In silvis non inundatis prope flumen Aramá in regione Breves aestuarii amazonici, State of Pará, November 29, 1922, *A. Ducke 18828* (Herb. Berol., type).

The plant is a strikingly distinct one, of no clear specific affinity. It must be an exceptionally showy shrub when growing. It is noteworthy for the few-flowered inflorescence, subtended by narrow, almost or quite distinct, brightly colored bracts, and for the unusually large, densely hairy corollas.

Cephaelis hastisepala (Muell. Arg.), comb. nov. *Psychotria hastisepala* Muell. Arg. in Mart. Fl. Bras. 6[5]: 350. *pl. 54*. 1881.

Cephaelis appendiculata (Muell. Arg.), comb. nov. *Psychotria appendiculata* Muell. Arg. in Mart. Fl. Bras. 6[5]: 350. 1881.

Cephaelis trichocephala (Poepp. & Endl.), comb. nov. *Psychotria trichocephala* Poepp. & Endl. Nov. Gen. & Sp. 3: 32. *pl. 238*. 1845.

Cephaelis biternata (Muell. Arg.), comb. nov. *Psychotria biternata* Muell. Arg. in Mart. Fl. Bras. 6[5]: 366. 1881.

Cephaelis glabrescens (Muell. Arg.), comb. nov. *Psychotria glabrescens* Muell. Arg. in Mart. Fl. Bras. 6[5]: 363. 1881.

Cephaelis horridula (Muell. Arg.), comb. nov. *Psychotria horridula* Muell. Arg. in Mart. Fl. Bras. 6[5]: 344. *pl. 53, f. 2*. 1881.

Cephaelis involucrans (Muell. Arg.), comb. nov. *Psychotria involucrans* Muell. Arg. in Mart. Fl. Bras. 6[5]: 365. 1881.

Cephaelis phyllocalymmoides (Muell. Arg.), comb. nov. *Psychotria phyllocalymmoides* Muell. Arg. in Mart. Fl. Bras. 6[5]: 374. 1881.

Cephaelis Humboldtiana Cham. Linnaea 4: 136. 1829. *Psychotria Humboldtiana* Muell. Arg. in Mart. Fl. Bras. 6[5]: 333. 1881.

For the typical form of the species Mueller (loc. cit.) lists only the type specimen, from Venezuela. The following collection from Brazil agrees perfectly with a photograph of the type (ex Herb. Berol.) in the herbarium of Field Museum: Brazil: Upper Rio Negro, 1907–8, *Weiss & Schmidt* (Herb. Kew.).

Psychotria axillaris Willd. Sp. Pl. 1: 962. 1797.

Colombia: Villavicencio, Prov. Bogotá, 300 m., 1851–57, *J. Triana 1699* (Herb. Paris).

Psychotria Marcgraviella, sp. nov.—Frutex 60 cm. altus, ramulis gracilibus sparse ramosis teretibus dense ferrugineo-hispidulis, internodiis plerumque 1–1.5 cm. longis; stipulae erectae persistentes lineari-lanceolatae c. 3 mm. longae ferrugineo-hispidulae; folia fere

sessilia opposita, petiolo 1–1.5 mm. longo hispidulo; lamina membranacea oblonga 3–4.4 cm. longa 1–1.5 cm. lata acuta basi late rotundata et cordata, sinu 1–2 mm. longo, supra viridis, ad costam ferrugineo-pilosa, aliter glabra, costa prominula, venis inconspicuis, subtus paullo pallidior, tantum ad costam ferrugineo-pilosula, costa gracili prominente, nervis lateralibus utroque latere c. 6 tenerrimis angulo acuto adscendentibus subarcuatis inconspicuis; inflorescentia terminalis 2 cm. longe pedunculata cymoso-corymbosa c. 2 cm. longa et 3–4 cm. lata, laxe pauciflora, basi trichotoma, ramis gracillimis subpatentibus glabris, bracteis subulatis usque ad 1 mm. longis, pedicellis gracillimis glabris 2–4 mm. longis; hypanthium obovoideum 0.7 mm. longum glabrum; calyx glaber profunde 4-dentatus, dentibus triangularibus acutis; corolla ochroleuca in alabastro obtusa extus glabra, tubo crassiusculo 2.5 mm. longo supra paullo sensimque dilatato, lobis 4 anguste oblongis obtusis recurvis tubo duplo brevioribus; antherae inclusae; stylus breviter exsertus.—Peru: In forest, Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., October–November, 1929, *G. Klug 494* (Herb. Field Mus. No. 612,606, type).

In the appearance of the branches and foliage the plant suggests a diminutive juvenile form of some of the *Marcgravia* species, hence the specific name. This *Psychotria* is a relative of *P. tenuicaulis* Krause, also Peruvian, but from that, as well as from most other Peruvian species, it is easily distinguishable by the cordate leaf bases.

Psychotria huallagae, sp. nov.—Frutex, ramulis crassiusculis ochraceis glabris, novellis viridibus, internodiis valde abbreviatis; stipulae persistentes suberectae fere ad basin bifidae, basi late rotundatae, laciniis lineari-filiformibus attenuatis glabris; folia brevissime petiolata opposita, petiolo glabro 1–2 mm. longo; lamina membranacea oblanceolato-oblonga vel anguste elliptico-oblonga 6–11 cm. longa, 1.8–4 cm. lata, abrupte acuta vel breviter acuminata, acumine acuto, basin versus paullo angustata, basi ipsa acuta, glabra, supra in sicco griseo-viridis, costa venisque subprominentibus, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 12, ceteris paullo tenuioribus brevioribusque subparallelis interpositis, angulo fere recto abeuntibus, pallidis, prominentibus, gracilibus, prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis graciliter 3 cm. longe pedunculata cymoso-paniculata, c. 2 cm. longa et 3.5 cm. lata, late pyramidalis, ramis oppositis viridibus patentibus, cymis paucifloris densis, floribus sessilibus vel subsessilibus, bracteis infimis subulatis, ceteris deciduis; calyx glaber ad apicem baccae persistens breviter 5-dentatus; fructus subglobosus vel late ellipsoideus c. 5 mm. longus obscure costatus glaber, pyrenis 2 facie interiore planis.—Peru: Puerto Arturo, Yurimaguas, lower Río Huallaga, Dept. Loreto, alt. 155–210 m., November 20, 1929, *Llewelyn Williams 5265* (Herb. Field Mus. No. 614,356, type).

Psychotria Klugii, sp. nov.—Frutex 1.5 m. altus, ramulis crassiusculis subteretibus vel obtuse tetragonis glabris in sicco fuscis, internodiis plerumque 1–2 cm. longis; stipulae persistentes laxae suberectae ovali-ovatae c. 1 cm. longae acutiusculae glabrae fere liberae; folia petiolata opposita, petiolo crassiusculo 1.3–3.5 cm. longo glabro; lamina anguste lanceolato-oblonga 23–31 cm. longa 7–8.5 cm. lata longe angusteque attenuato-acuminata, acumine angustissimo, basin versus longe attenuata, crasse membranacea, glabra, supra opaca, costa venisque subprominentibus, subtus paullo pallidior, dense et minutissime pallido-puncticulata, costa gracili elevata, nervis lateralibus utroque latere c. 12 angulo acuto vel latiusculo adscendentibus prominentibus gracilibus arcuatis marginem attingentibus, nervulis vix prominulis laxe reticulatis; inflorescentia terminalis c. 6 cm. longe pedunculata, e capitulis c. 6–10 mm. longe pedunculatis umbellatim dispositis composita, pedunculis sordido-puberulis, capitulis c. 1 cm. latis dense paucifloris, bracteis exterioribus 6–8 mm. longis late ovatis vel ovalibus obtusis glabris basin versus breviter angustatis; flores albi sessiles; hypanthium late obovoideum 1.5 mm. longum glabrum, calyce c. 0.6 mm. longo obsolete repando-denticulato; cetera ignota.—Peru: In forest, Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., January, 1930, *G. Klug 835* (Herb. Field Mus. No. 612,590, type); October–November, 1929, *Klug 519.*

The plant bears no very close resemblance to any species with which I am familiar. The very large and long and narrow leaves are unusual.

Psychotria tarapotensis, sp. nov.—Frutex, ramulis gracillimis teretibus vel novellis in sicco compressis pallide viridibus glabris, internodiis elongatis; stipulae erectae persistentes fere liberae bipartitae, laciniis linearibus viridibus glabris; folia subsessilia opposita, petiolo 1–2 mm. tantum longo; lamina firme membranacea elliptica vel elliptico-oblonga 6.5–12 cm. longa 2.5–5.5 cm. lata abrupte acuminata, acumine anguste triangulari attenuato-acuto, basi acuta vel interdum abrupte contracta et decurrens, lucida, glabra, supra in sicco viridis, costa venisque prominentibus, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 10 angulo acuto adscendentibus gracillimis prominentibus arcuatis marginem fere attingentibus, nervulis pallidis prominulis laxe reticulatis; inflorescentia terminalis 1.5–4 cm. longe pedunculata capitata erecta, pedunculo gracili hispidulo vel glabrato, capitulo dense paucifloro e capitulis secundariis 3 composito, capitulis lateralibus usque ad 2 mm. longe pedunculatis, bracteis exterioribus lanceolatis ut videtur viridibus 10–14 mm. longis attenuatis breviter pilosulis patentibus, floribus sessilibus congestis; hypanthium late obovoideum c. 1 mm. longum glabrum, calyce 0.3 mm. longo glabro remote inaequaliter denticulato; corolla extus hispidula, tubo gracili 5 mm. longo, lobis patentibus oblongis intus prope basin hispidulis vix 2 mm. longis obtusis; antherae exsertae anguste oblongae 1.5 mm. longae.—Peru:

Tarapoto, Dept. San Martín, alt. 750 m., December 9, 1929, *Llewelyn Williams 5888* (Herb. Field Mus. No. 614,224, type); December, 1929, *Williams 5867, 6497.*

Related to *P. bahiensis* Muell. Arg. and *P. flavicans* Muell. Arg., both of which are Brazilian. In those species the inflorescence is recurved or nodding rather than erect.

Psychotria nudiceps, sp. nov.—Frutex metralis fere omnino glaber, ramulis gracilibus fuscis vel olivaceis subteretibus vel novellis in sicco subcompressis glabris, internodiis elongatis; stipulae erectae subadpressae persistentes in vaginam glabram utroque latere brevissime mucronatam vel subtruncatam connatae; folia breviter petiolata opposita, petiolo gracili c. 1 cm. longo; lamina membranacea oblonga vel elliptico-oblonga 9–19.5 cm. longa 3–6.5 cm. lata abrupte breviter acuminata, acumine anguste triangulari attenuato acuto, basin versus longiuscule angustata vel interdum abrupte contracta et longe decurrens, glabra, supra viridis, costa venisque prominulis, subtus vix pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 12 angulo lato divergentibus gracillimis prominulis fere rectis vel leviter curvis prope marginem conjunctis, nervulis prominulis arcte reticulatis; inflorescentia terminalis capitata sessilis vel rare 1 cm. longe pedunculata, capitulis solitariis simplicibus dense multifloris c. 1 cm. latis, floribus arcte sessilibus, bracteis ad basin capitulorum nullis vel minutissimis; hypanthium late obconicum glabrum 0.7 mm. longum, calyce late campanulato truncato c. 1 mm. longo glabro; corolla lutea extus glabra in alabastro anguste ovoidea acutiuscula, tubo late cylindraceo 2.5 mm. longo supra non dilatato in fauce dense albo-barbato, lobis 5 triangulari-oblongis patentibus vel subreflexis tubo paullo brevioribus acutiusculis intus glabris; antherae lineares 1.5 mm. longae subexsertae.—Peru: Tarapoto, Dept. San Martín, alt. 360–900 m., February 21, 1930, *Llewelyn Williams 6600* (Herb. Field Mus. No. 614,571, type). Punchana, near Iquitos, 120 m., October, 1929, *Williams 3775.* Mishuyacu, near Iquitos, Dept. Loreto, 100 m., in forest, October–November, 1929, *Klug 278, 306.*

The plant here described appears to be an exceptionally distinct *Psychotria,* easily separable from any other recorded from Peru. The foliage is closely similar to that of *P. Albert-Smithii* Standl., but in that the heads are compound, and the flowers differ in several details of structure.

Psychotria Dusenii, sp. nov.—Frutex vel arbor omnino glabra, ramulis gracilibus subteretibus olivaceis, internodiis plerumque 1.5–2.5 cm. longis; stipulae persistentes virides in vaginam truncatam 1.5 mm. longam connatae, vagina in lacinias 4 lineari-subulatas 1.2 mm. longas erectas remotas desinente; folia longiuscule petiolata opposita, petiolo gracili 8–18 mm. longo; lamina crasse membranacea sublucida oblongo-elliptica vel ovato-elliptica 4.5–7.5 cm. longa

1.7–3.3 cm. lata subabrupte et longiuscule acuminata, acumine angusto attenuato obtuso, basi acuta, costa venisque supra prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 9 angulo latiusculo adscendentibus gracillimis prominulis arcuatis prope marginem conjunctis, nervis tenuioribus gracillimis inter primarios interpositis et eis subparallelis; inflorescentia terminalis sessilis et basi foliis 2 reductis fulcrata vel basi nuda et 2.5 cm. longe pedunculata, cymoso-corymbosa, basi trichotoma, 3–5 cm. longa et 3.5–5.5 cm. lata, laxa, pauciflora, ramis primariis trifloris, flore centrali sessili, lateralibus graciliter 3–14 mm. longe pedicellatis, bracteis subulatis persistentibus 2–5 mm. longis; hypanthium anguste obovoideum 1.5 mm. longum; calyx tubuloso-infundibuliformis 7–13 mm. longus supra paullo dilatatus, lobis 3 late ovali-ovatis obtusis interdum apiculatis tubo c. duplo brevioribus, calyce in sicco purpurascente; corolla caerulea anguste infundibuliformis, tubo 15 mm. longo supra sensim dilatato ore 4 mm. lato, lobis 5 triangulari-ovatis acutis 6 mm. longis adscendentibus intus glabris; stamina tubo multo breviora, antheris 2.5 mm. longis; fructus ovoideus 7 mm. longus 5 mm. latus, pyrenis 2 dorso obtuse 5-costatis, facie interiore planis.—Brazil (State of Paraná): Serra do Mar, Monte Alegre, in silva primaeva, alt. 1,000 m., February 8, 1904, *P. Dusén 3497* (Stockholm herb., type). Serra do Mar, Maramby, in silva primaeva, 900 m., February, 1904, *Dusén 3701* (S). Caiguava, in silva primaeva, 1,200 m., November, 1909, *Dusén 8965* (S).

Psychotria Dusenii appears to be an unusually distinct species, referable to Mueller's subgenus *Solenocalyx*, and perhaps related to *P. fluminensis* Vell. From all the species of that group it differs in the 3-lobed calyx, and in the arrangement of the inflorescence, which consists of three 3-flowered cymes.

Psychotria pycnantha, nom. nov. *Mapouria brachypoda* Muell. Arg. in Mart. Fl. Bras. 6[5]: 422. 1888, non *P. brachypoda* St. Lag.

Psychotria Hayatae, nom. nov. *P. macrophylla* Hayata, Icon. Pl. Formos. 9: 62. 1920, non R. & P., 1799.

Palicourea guianensis Aubl. Pl. Guian. 1: 173. *pl. 66*. 1775.

When the account of the Rubiaceae was prepared for the writer's *Trees and Shrubs of Mexico*, no Mexican specimens of this widespread species had been seen. Two collections have been examined recently: Mexico: In umbrosis prope Atasta, Tabasco, July, 1889, *J. N. Rovirosa 535* (Herb. Kew.). Cordillera of Oaxaca, June, 1840, *H. Galeotti 2640* (Herb. Paris).

Palicourea albiflora Standl. Field Mus. Bot. 7 118. 1930.

A second collection for this species may be placed on record:

Colombia: La Ceja, forest of Quindío, Prov. Mariquita, 3,000 m., 1851–57, *J. Triana 1674* (Herb. Paris).

Palicourea caprifoliacea Wernham, Journ. Bot. 55: 340. 1917.

The type is *Linden 1080*, the definite locality of which has not been published heretofore. According to a specimen in the Paris herbarium, the data are the following: Colombia: Quindío, Prov. Mariquita, alt. 1,200 toises, February, 1843, *J. Linden 1080*.

Palicourea lyristipula Wernham, Journ. Bot. 55: 339. 1917.

The species was based on *Linden 1081*, the exact locality of which was not known. According to a specimen in the Paris herbarium, the data are as follows: Colombia: Quindío, alt. 1,300 toises, *J. Linden 1081*. Flowers bright yellow.

Palicourea stenoclada (Muell. Arg.), comb. nov. *Psychotria stenoclada* Muell. Arg. in Mart. Fl. Bras. 6^5: 254. 1881.

The type is *Poeppig 2578* from Ega, Brazil. It is well matched by the following collection: Brazil: Marary, Rio Juruá, Amazonas, September, 1900, *E. Ule 5127a* (Herb. Berol., a fragm. in Herb. Field Mus.; Herb. Kew.); a shrub 3 m. high, the slender branches pendent; corolla at first pinkish white, becoming bright violet; calyx and rachis orange.

Palicourea corymbifera (Muell. Arg.), comb. nov. *Psychotria corymbifera* Muell. Arg. in Mart. Fl. Bras. 6^5: 247. *pl. 35*. 1881.

The species has been known only from the upper Amazon in Brazil and from southern Venezuela. It may be reported now from Peru, and two recent Brazilian collections may be recorded:

Peru: Mishuyacu, Dept. Loreto, 100 m., in forest, in 1930, *G. Klug 1311;* a shrub 2 m. high; flowers violet.—Brazil: Manaos, State of Amazonas, 25 m., in dense forest, October, 1929, *Killip & Smith 30141, 30104;* a tree 4.5–7.5 m. high; branches of inflorescence and calyx bright yellow; corolla red.

Palicourea fulgens (Muell. Arg.), comb. nov. *Psychotria fulgens* Muell. Arg. in Mart. Fl. Bras. 6^5: 257. 1881.

Palicourea coriacea (Cham.) Schum. in E. & P. Nat. Pfl. 4^4: 115. 1891. *Patabea coriacea* Cham. Linnaea 9: 234. 1835. *Psychotria xanthophylla* Muell. Arg. in Mart. Fl. Bras. 6^5: 255. 1881.

In addition to the few collections of this well-marked species cited in the *Flora Brasiliensis*, there may be listed the following specimens:

Brazil: Amada Chapada, Matto Grosso, in 1902, *A. Robert 670* (Herb. Berol.). Rio Pardo, in 1826, *Riedel 571* (U. S. Nat. Herb.).

Prov. Minas Geraes, 1816–21, *Auguste de Saint-Hilaire 513* (Herb. Paris). Minas Geraes, in 1838, *Claussen 665* (Herb. Paris). Goyaz, in 1844, *Weddell 2631* (Herb. Paris).

Palicourea lanata (Muell. Arg.), comb. nov. *Psychotria lanata* Muell. Arg. in Mart. Fl. Bras. 6[5]: 249. 1881.

The species was based on *Spruce 1148* from Barra. The collector's notes (probably not available to Mueller) are as follows: Open sandy places in forest, December, 1850; shrub of 2–4 ft., slender, subsimple; corolla white, but velvety with crimson submoniliform hairs; a very pretty plant, but much eaten by insects. Several additional collections of the species may be reported:

Brazil: Manaos, December, 1874, *Traill 427* (Herb. Kew., Herb. Paris); a shrub 1 m. high; perianth carmine, yellow-tipped, the anthers white, the style yellow. Cultivated at Rio de Janeiro, *Glaziou 9894* (Herb. Kew.). Environs de Manaos, in 1906, *M. Labroy* (Herb. Paris). Igaripe Tarauma, Rio Negro, west of Manaos, *D. T. Gwynne Vaughan 18* (Herb. Kew.); a small tree 3.5–6 m. high; flowers deep red; leaves tough and leathery.

Palicourea rigida HBK., var. **aurata** (Mart.), comb. nov. *Palicourea aurata* Mart. Reise 1: 544. 1823. *Psychotria rigida* Willd. var. *aurata* Muell. Arg. in Mart. Fl. Bras. 6[5]: 231. 1881.

Palicourea subaeneo-fusca (Muell. Arg.), comb. nov. *Psychotria subaeneo-fusca* Muell. Arg. in Mart. Fl. Bras. 6[5]: 464. 1881.

Palicourea rudgeoides (Muell. Arg.), comb. nov. *Psychotria rudgeoides* Muell. Arg. in Mart. Fl. Bras. 6[5]: 463. 1881.

Palicourea pachypodina (Muell. Arg.), comb. nov. *Psychotria pachypodina* Muell. Arg. in Mart. Fl. Bras. 6[5]: 463. 1888.

Rudgea caribaea Benth. Linnaea 23: 460. 1850.

Neither the genus nor the species is reported from the Virgin Islands in Britton and Wilson's *Descriptive Flora of Porto Rico and the Virgin Islands*. In the Paris herbarium, however, there is a specimen of this species labeled as having been collected on St. Thomas in 1841 by Finlay (*No. 73*).

Rudgea marginata Standl. Field Mus. Bot. 7: 154. 1930.

Locality data may now be reported for one of the collections cited with the description of this species: Colombia: Ibagué, Prov. Mariquita, 1,300 m., *Triana 1687* (Herb. Paris). An additional specimen also may be cited: Colombia: Sierra Nevada de Santa Marta, 900 m., July, 1926, *Arnold Schultze 447* (Herb. Berol.); a characteristic plant along the ascent from Santa Marta to Cincinnati, at 800–1,000 m.; a shrub up to 3 m. high; inflorescence yellowish white; flowers white, fragrant.

Rudgea fimbriata (Benth.) Standl. in Standl. & Cald. Lista Pl. Salv. 274. 1925. *Psychotria fimbriata* Benth. in Hook. Journ. Bot. 3: 226. 1841.

In the enumeration of the Rubiaceae of Colombia only two collections of the species were cited, both without definite locality data. The place of collection of one of the numbers listed may now be supplied: Colombia: Anapoima, Prov. Bogotá, 700 m., *Triana 1692* (Herb. Paris).

Only two collections of the species have been reported from Ecuador, both from El Recreo. Two others may now be placed on record: Ecuador: Guayabamba, March, 1877, *M. Vidal-Sénège* (Herb. Paris). San Carlos, *Vidal-Sénège* (Herb. Paris).

Rudgea loretensis Standl. Field Mus. Bot. 8: 230. 1930.

Described from the Department of Loreto, Peru, this species may be reported now from Amazonian Brazil: Juruá Miry, Rio Juruá, July, 1901, *Ule 5672* (Herb. Berol., Herb. Kew.); a shrub 1–5 m. high; flowers white.

Rudgea microcarpa (R. & P.), comb. nov. *Coffea microcarpa* R. & P. Fl. Peruv. 2: 66. *pl. 218.* 1799.

There is in the herbarium of Field Museum a photograph and fragment of a specimen in the Berlin herbarium which, presumably, is authentic material of *Coffea microcarpa* R. & P. It was collected in 1787 by Ruiz "in Peruviae Andium nemoribus ad Patasaria," the type locality. The specimens cited below agree with the type, and are clearly referable to the genus *Rudgea*.

Peru: Soledad, Lower Itaya, Dept. Loreto, 110 m., *Tessmann 5311* (Herb. Berol.); a shrub 3 m. high, the trunk 5 cm. in diameter; corolla mostly white. Soledad, in dense forest, *Killip & Smith 29695;* a shrub 3–4.5 m. high. Yurimaguas, Dept. Loreto, 135 m., in dense forest, *Killip & Smith 27989;* a shrub; fruit pure white. Between Yurimaguas and Balsapuerto, Loreto, in forest, *Killip & Smith 28078.* Yurimaguas, in forest, a small shrub, *Williams 4534.*

Rudgea hispidula Standl. Field Mus. Bot. 8: 226. 1930.

Only the single type collection was reported when this species was published, but there may be recorded now the following additional specimens, previously overlooked or only recently received:

Peru: Puerto Arturo, lower Río Huallaga, Dept. Loreto, 155–210 m., a shrub in forest, November, 1929, *Williams 5050.* Santa Rosa, Yurimaguas, lower Río Huallaga, November, 1929, a shrub in or at the edge of forest, *Williams 4863, 4753.* Sapote Yacu, Santa Rosa, November, 1929, a shrub in forest, *Williams 4870.* Yurima-

guas, lower Río Huallaga, November, 1929, a small shrub in forest, *Williams 4663*. Yurimaguas, in forest, a shrub 1–1.5 m. high, the fruit white, *Killip & Smith 27644, 27632*.

Rudgea villiflora Schum. in herb., sp. nov.—Frutex, ramulis crassis subteretibus ochraceis, novellis dense pilis longis pallidis villoso-pilosis, internodiis vulgo folia aequantibus vel paullo brevioribus; stipulae magnae deciduae c. 12 mm. longae late oblongae pallidae dense subadpresso-hirsutae, dorso prope apicem ut quoque ad basin setis numerosis rigidis 3–5 mm. longis instructae; folia brevissime petiolata opposita, petiolo crasso 4–8 mm. longo hirsuto; lamina coriacea oblonga, obovato-oblonga vel elliptico-oblonga, rarius anguste oblanceolato-oblonga, 5.5–12.5 cm. longa, 2–5.5 cm. lata, acuta vel obtusa, basi rotundata, rare versus basin acutam sensim angustata, supra luteo-viridis vel cinerascens, glabra, costa venisque non elevatis, subtus multo pallidior, minute denseque puncticulata, ubique pilis gracillimis pallidis hirsuta vel serius glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 11 angulo lato abeuntibus gracilibus prominulis remote a margine conjunctis, nervulis obscuris; inflorescentia terminalis cymoso-paniculata saepe corymbiformis 2–6 cm. longa 2–10 cm. lata dense multiflora, interdum condensata, 2.5–5 cm. longe pedunculata, ramis basalibus oppositis vel verticillatis patentibus usque ad 2.5 cm. longis, dense villoso-hirsutis, bracteis filiformibus villosis usque ad 6 mm. longis, floribus dense congestis sessilibus vel subsessilibus; hypanthium obovoideum dense villosum; calyx 5-partitus, laciniis anguste lineari-attenuatis 4–5 mm. longis extus longe villosis; corolla extus pilis longissimis pallidis multicellularibus villosa, tubo gracili c. 3 cm. longo supra sensim dilatato ore 4 mm. lato, lobis linearibus vel anguste lanceolatis 5–6 mm. longis attenuatis intus glabris; stamina fere 1 cm. longe exserta, antheris oblongis 2.5 mm. longis; fructus ovali-globosus 7–8 mm. longus sparse villoso-hirsutus apice subtruncatus, pyrenis 2 dorso obtuse grosseque 5-costatis, facie interiore planis.—Brazil: São Francisco, Santa Catharina, in forest, October, 1884, *Ernst Ule 353* (Herb. Berol., type; photograph and fragment in herb. Field Mus., No. 607,286). Inter Alexandra et Serra da Prata, Paraná, in silva primaeva, August, 1910, *Dusén 10156* (Stockholm herb.). Guaratuba, Paraná, in silvula, December, 1911, *Dusén 13795* (S). Alexandra, Paraná, in silva primaeva, May, 1909, *Dusén 8102* (S); December, 1909, *Dusén 8673* (S). Santos, in silva litorali subhumida, in 1875, *H. Mosén 3181* (S).

In Mueller's key to the species of *Rudgea* in the *Flora Brasiliensis* this plant runs at once to *R. magnoliaefolia* (Cham.) Muell., but in that the leaves and branches are glabrous.

Rudgea parquioides (Cham.) Muell. Arg. Flora 59: 450. 1876. *Coffea parquioides* Cham. Linnaea 9: 224. 1834.

The species appears to be rather common in southern Brazil, and

it extends to Paraguay and even to Argentina. The following are some of the specimens examined recently:

Brazil: Desvio Ribas, Paraná, border of forest, *Dusén 1148a.* Jaguariahyva, Paraná, in forest, *Dusén 10599.* Pinhaes, Paraná, 885 m., *Dusén 13351* (Herb. Stockholm). Itaparussú, Paraná, 880 m., *Dusén 7102* (S). Hamburgerberg, Rio Grande do Sul, in silva primaeva minus densa, *Malme 216* (S); a shrub 2–3 m. high, sparsely branched. Neu-Württemberg, Rio Grande do Sul, 550 m., in forest, *Bornmüller 338* (Herb. Berol.).—Paraguay: In regione fluminis Alto Paraná, *Fiebrig 5414* (Herb. Kew., Herb. Paris).—Argentina: Misiones, in distr. urb. Posadas, praecipue in vicin. coloniae Bonpland, *Lillieskold* (S).

Rudgea celastrinea Muell. Arg. Flora 59: 450. 1876.

Brazil: Caldas, Minas Geraes, November, 1854, *Regnell III.111*** (Herb. Berol., probably type collection). Without locality, *Burchell 3066* (Herb. Paris). Rio de Janeiro, *Miers 3905* (Herb. Paris).

Mitracarpus rigidifolius, sp. nov.—Suffrutescens perennis, caulibus erectis ramosis teretibus vel subangulatis ferrugineis rigidis glabris, internodiis plerumque foliis brevioribus; vagina stipularis 2.5–3 mm. longa adpressa ferruginea glabra, margine truncato setis paucis subulatis erectis 1–2 mm. longis onusto; folia sessilia opposita et in axillis fasciculata anguste linearia vel interdum lineari-oblonga glabra 1.5–3.5 cm. longa vulgo 1–1.6 mm. lata glaucescentia supra minutissime puncticulata acuminata basin versus paullo angustata crassa et rigida, marginibus valde revolutis; flores capitati, capitulis terminalibus solitariis longipedunculatis 10–13 mm. diam., densissime multifloris, basi bracteis 4 vel pluribus foliis conformibus et aequilongis fulcratis, bracteis reflexis, floribus arcte sessilibus, bracteolis filiformibus calycem aequantibus glabris; hypanthium obovoideum vix 1 mm. longum glabrum basi cuneatum; sepala alte connata, majoribus 1.7–2.2 mm. longis erectis viridibus triangulari-subulatis rigidis acuminatis, minoribus 2 hyalinis plus quam duplo brevioribus; corolla extus minutissime obscure puberula, tubo cylindraceo crassiusculo 3–4 mm. longo supra non dilatato, lobis 4 ovato-ovalibus fere 1 mm. longis patentibus obtusis intus puberulis; antherae oblongae subexsertae; stylus corollam aequans glaber breviter bifidus; capsula late obovoidea c. 2.5 mm. longa glabra paullo infra medium circumscissa, seminibus late obovoideis ventre leviter excavatis.—Brazil: Serra do São Ignacio, Estado de Bahia, February, 1907, *E. Ule 7559* (Herb. Kew., type).

Apparently conspecific, although with somewhat broader leaves, is *Ule 7481,* from Serra Branca, Piauhy, collected in January, 1907 (Herb. Kew.). Related to *Mitracarpus Lhotzkyanus* Cham., but distinguishable at a glance by the very narrow and rigid leaves.

Mitracarpus recurvatus, sp. nov.—Fruticulus ramosus subpulvinatus, ramis crassissimis usque ad 10 cm. longis paucis densissime

foliatis subtetragonis ferrugineis vel fuscis hispidulis, internodiis validissime abbreviatis; vagina stipularis brevissima setis c. 3 rigidis pallidis erectis glabris longioribus onusta; folia densissime conferta opposita sessilia acerosa e basi angusta sensim attenuata recurva, 3–5 mm. longa, prope basin 1 mm. lata, utrinque densiuscule setoso-hispidula, 1-nervia, costa subtus prominente crassa pallida, marginibus valde incrassatis pallidis; flores ex foliis superioribus pauci solitarii vel glomerati sessiles vel brevissime pedicellati, bracteolis filiformibus pallidis glabris flores aequantibus; hypanthium dense albo-villosulum obovoideum; sepala 4 basi connata viridia 1–1.5 mm. longa subinaequalia lanceolata rigida erecta attenuata albo-marginata villosulo-ciliata; corolla extus glabra vel obscure puberula calycem vix superans, tubo anguste cylindraceo fere 2 mm. longo supra non dilatato, lobis 4 subrotundatis c. 0.7 mm. longis patentibus intus puberulis; capsula c. 1.5 mm. longa villosula prope medium circumscissa.—Brazil: Goyaz (?), *A. Glaziou 21511* (Herb. Kew., type).

The material available for study, although complete, is not ample, and the plants are so far past flowering that it is difficult to determine satisfactorily the characters of the inflorescence. There is no doubt, however, that the plant is a *Mitracarpus*, referable to Schumann's subgenus *Mitrathamnus*, and that it is altogether different from any species known heretofore from Brazil.

Mitracarpus anthospermoides Schum. in Mart. Fl. Bras. 6^6: 86. 1888.

Schumann cited a single collection for this species, *Blanchet 1867*, from Bahia. A photograph of the type is in the herbarium of Field Museum. One additional collection has come to the writer's attention: Brazil: Ilheos, *Moricand 1867* (Herb. Kew.).

Staelia scabra (Presl), comb. nov. *Diphragmus scaber* Presl, Bot. Bemerk. 81. 1844. *Spermacoce asperifolia* Mart. & Gal. Bull. Acad. Brux. 11^1: 132. 1844. *Borreria asperifolia* Robinson, Proc. Amer. Acad. 45: 409. 1910.

Mexico: Acapulco, in 1895, *Palmer 253*. Imala, in 1891, *Palmer 1734*. Colima, in 1891, *Palmer 937* (Herb. Kew.).

The genus *Staelia* is a small one, which heretofore has been supposed to be confined to central and southern South America. This Mexican plant, however, apparently should be referred to *Staelia*. In most species of the genus the central partition of the fruit is persistent, the cells separating from it and circumscissile obliquely near the base. In the Mexican plant the cells seem not to be circumscissile, but they separate from the partition, leaving it as a conspicuous object among the persistent bracts.

Staelia filifolia Rusby, Mem. Torrey Club 4: 209. 1895.

One additional collection of the species has been examined recently: Bolivia: Misiones Guarayos–Santa Cruz de la Sierra, Dept. Santa Cruz, 300 m., *Werdermann 2605* (Herb. Stockholm).

Staelia Hassleri, nom. nov. *S. filifolia* Chod. & Hassl. Bull. Herb. Boiss. II. 4: 190. 1904, non Rusby, 1895.

Richardia tricocca (T. & G.), comb. nov. *Diodia tricocca* T. & G. Fl. N. Amer. 2: 30. 1841. *Diodia tetracocca* Hemsl. Biol. Centr. Amer. Bot. 2: 56. 1881. *Crusea allococca* Gray, Proc. Amer. Acad. 19: 78. 1883. *Richardsonia tricocca* Schum. ex Loes. Repert. Sp. Nov. 18: 362. 1922. *Richardsonia tetracocca* Schum. ex Loes., loc. cit.

As Gray long ago pointed out, the plants named *Diodia tricocca* and *D. tetracocca* are to be considered as mere variants of the same species.

Richardia rigidifolia (Krause), comb. nov. *Richardsonia rigidifolia* Krause, Notizbl. Bot. Gart. Berlin 8: 103. 1922.

The type is *Weberbauer 5502* from Ayacucho, Peru. Clearly conspecific is the following additional collection: Peru: Mountains east of Palca, Prov. Tarma, Dept. Junín, 2,700–3,000 m., February, 1903, *Weberbauer 2437* (Herb. Berol.). Corolla white with purplish tips.

Richardia lomensis (Krause), comb. nov. *Richardsonia lomensis* Krause, Bot. Jahrb. Engler 40: 348. 1908.

Richardia pedicellata (Schum.), comb. nov. *Richardsonia pedicellata* Schum. in Mart. Fl. Bras. 6^6: 97. 1888.

A photograph of the type, collected near Itu, São Paulo, by Langsdorff and Riedel, is in the herbarium of Field Museum. It is perhaps worth while to record the following additional collections of this comparatively rare species:

Brazil (State of Paraná): Jaguariahyva, in campo, 740 m., *Dusén 10718* (Stockholm herb.), *10721* (S), *13178* (S). Ponta Grossa, in campo, *Dusén 10358* (S). Itararé, in campo, *Dusén 10992* (S). Capão Grande, in campo, April 14, 1909, *Dusén* (S). Capão Bonito, in campo, *Dusén 16914* (S). Lago, in campo, *Dusén 2589* (S).—Paraguay: Cordillera de Villa Rica, *Hassler 8775* (F, a fragment from Herb. Berol.).

Diodia subulata (DC.), comb. nov. *Borreria subulatá* DC. Prodr. 4: 543. 1830. *Crusea subulata* Gray, Proc. Amer. Acad. 19: 78. 1883.

As already pointed out by Schumann (in E. & P. Nat. Pflanzenfam. 4^4: 142. 1897), this plant should be referred to the genus *Diodia,*

rather than to *Crusea*, where it has been placed by most American writers.

Diodia rosmarinifolia Pohl ex DC. Prodr. 4: 564. 1830.

This species is known from Brazil and Venezuela. In most characters it resembles closely *Diodia teres* Walt., so closely, in fact, that it is questionable whether it is more than a variety of that widespread species. It is distinguished chiefly by having the fruit glabrous or almost so, but in *D. teres* the pubescence of the fruit varies notably.

The following Central American collection, apparently referable here, represents a great extension of range: Guatemala: Praderas áridas de Guatemala, 1,400 m., July, 1921, *A. Tonduz 614* (Herb. Berol.). The Guatemalan plants are noteworthy in having corollas as much as 9 mm. long.

Diodia cymosa Cham. Linnaea 9: 217. 1834.

The species was based upon *Sello 5336*, represented in the herbarium of Field Museum by a photograph and fragment from the Berlin herbarium. The specimen was collected somewhere in southern Brazil, but without definite locality data. The following collection gives at least one definite locality for the plant: Brazil: Calmon, State of Paraná, March 15, 1910, *Dusén 9269* (Stockholm herb.).

Diodia paradoxa Cham. Linnaea 9: 216. 1834.

Numerous specimens of the species have been cited from Brazil, but it may be worth while to report the following collection from Argentina: Misiones, in distr. urb. Posadas, praecipue in vicin. coloniae Bonpland, *W. Lilliesköld* (F, Herb. Stockholm).

Diodia macrophylla Schum. in Mart. Fl. Bras. 6^6: 401. 1889.

The only collection reported for this species by Schumann was the type, *Gardner 3243*, from Goyaz, a photograph of which is in the herbarium of Field Museum. The following additional specimens have been seen by the writer: Brazil: Without locality, *Burchell 6484* (Herb. Kew.), *8580* (Herb. Kew.), *7813* (Herb. Kew.). Natividade, Goyaz, in open sandy places, November, 1839, *Gardner 3241* (Herb. Kew.); December, 1839, *Gardner 3242* (Herb. Kew.).—Paraguay: Y-acá, *Hassler 6714*.

Diodia brasiliensis Spreng., var. **microphylla** (C. & S.), comb. nov. *D. polymorpha* C. & S., var. *microphylla* C. & S. Linnaea 3: 345. 1828.

The following collection, obtained well outside the usual range of the plant, is worthy of record: Argentina: Misiones, in distr. urb. Posadas, praecipue in vicin. coloniae Bonpland, *W. Lilliesköld* (Herb. Stockholm).

Borreria ocimoides (Burm.) DC. Prodr. 4: 544. 1830. *Spermacoce ocimoides* Burm. Fl. Ind. 34. *pl. 13, f. 1.* 1768. *S. Pringlei* Wats. Proc. Amer. Acad. 25: 152. 1890.

The type of *Spermacoce Pringlei* is *Pringle 2464* from Guadalajara, Mexico. The plant is evidently *Borreria ocimoides*. The leaves of the type material are broader than is usual in that species, but they are matched by the foliage of many southern specimens.

Borreria latifolia (Aubl.) Schum.—Although one of the common weedy species of the lowlands of many parts of tropical America, and frequent in southern Central America, this plant is not plentiful in northern Central America, and I do not know that it is recorded from Mexico or from British Honduras. It may, however, be reported now from the latter country: British Honduras: In open places, All Pines, at sea level, September, 1930, *W. A. Schipp 656*. The collector states that the plant is employed locally for treating snake bites, for which it can scarcely be a very dependable remedy.

Borreria Brittonii, nom. nov. *B. saxicola* Britt. & Millsp. Bahama Fl. 422. 1920, not Krause, 1908.

Borreria alata (Aubl.) DC. Prodr. 4: 544. 1830. *Spermacoce alata* Aubl. Pl. Guian. 1: 60. *pl. 22, f. 7.* 1775.

In the *Flora Brasiliensis* Schumann reports this species only from the Guianas, but it has a much wider range, as proved by the following specimens: Peru: Río Itaya, *Williams 139*. Caballo Cocha, Dept. Loreto, in forest, *Williams 2033*. Near Iquitos, Dept. Loreto, a weed in pasture, *Williams 1487*.—Brazil: State of Matto Grosso, Cuyabá, *Malme 3186* (Herb. Stockholm).

Borreria densiflora DC. Prodr. 4: 542. 1830.

This species, which is fairly common in northern South America and ranges as far southward as Argentina, seems to be rare in Brazil. Schumann listed it only in the addenda of the Rubiaceae of the *Flora Brasiliensis*, citing a single collection from Ceará. It is, therefore, worth while to report the following additional records: Brazil: Near Pelotas, Rio Grande do Sul, November, 1901, *Malme* (Herb. Stockholm). Livramento in caatinga, Ceará, March, 1910, *Löfgren 174* (Herb. Stockholm).

Borreria Balansae, sp. nov.—Herba perennis e radice lignosa crassa, caulibus erectis vel adscendentibus gracilibus simplicibus vel parce ramosis glabris plus minusve angulatis, angulis interdum angustissime alatis, internodiis saepe foliis paullo longioribus; stipulae virides breviter connatae, vagina vix 1 mm. longa seta 1 erecta glabra 1–2 mm. longa onusta, setis brevioribus vel brevissimis 2 vel pluribus adjectis; folia opposita subsessilia vel brevissime petiolata crasse membranacea in sicco luteo-viridia, petiolo lato marginato glabro 1–2 mm. longo; lamina lanceolato-oblonga, ovata vel oblongo-elliptica, 10–23 mm. longa, 5–8 mm. lata, acuta vel obtusiuscula, basi acuta, supra glabra vel prope marginem sparsissime scaberula, enervia, subtus paullo pallidior, glabra, costa gracillima prominente, nervis lateralibus utroque latere 2–3 angulo acutissimo adscendentibus obscuris, nervulis obsoletis; flores capitati, capitulis dense multifloris depresso-globosis 10–13 mm. latis basi bracteis 2 foliaceis foliis caulinis paullo brevioribus fulcratis, floribus arcte sessilibus, bracteolis lineari-subulatis calyce multo brevioribus; hypanthium turbinatum glabrum 2 mm. longum basi acutum; calyx 4-partitus glaber, laciniis 3–4 mm. longis erectis viridibus lineari-oblongis attenuatis acuminatis; corolla caerulea extus glabra 6–7 mm. longa infundibuliformis fere ad medium 4-loba, lobis suberectis triangulari-ovatis obtusis; antherae breviter exsertae; stigma capitatum.—Paraguay: Prairies de Pastoreo-mi(?), à l'Est de la Cordillère de Villa-Rica, September 24, 1874, *B. Balansa 1763* (Herb. Kew., type).

Because of the yellow-green tint assumed by the foliage when dried, and on account of the blue color of the corolla, this plant, if it really is a *Borreria,* is allied with such species as *B. latifolia* (Aubl.) Schum. and *B. poaya* (St. Hil.) DC. From those well-known plants it differs conspicuously in its perennial root and wholly terminal flower heads. The fruit of the single sheet seen is quite immature, and it is impossible to determine its exact nature, but it is improbable that the plant is a *Mitracarpus,* and still less probable that it is a species of *Diodia.*

Borreria vulpina, sp. nov.—Herba annua erecta c. 8 cm. alta ramosa, ramis gracilibus ferrugineis dense fulvo-pilosis, internodiis foliis subaequalibus; vagina stipularis tenuis lata c. 2 mm. longa dense pilosa, margine setis numerosis erectis rufescentibus glabris 3–5 mm. longis onusto; folia breviter petiolata membranacea opposita, petiolo lato basi paullo dilatato 1–2 mm. longo piloso; lamina anguste elliptico-oblonga vel anguste oblongo-lanceolata 12–25 mm. longa 5–7 mm. lata basi et apice acuta, utrinque pilis longis rigidiusculis fulvis vel rufescentibus patentibus vel subadpressis densiuscule pilosa, in sicco pallide viridis, costa gracili rufescente subtus prominente, nervis lateralibus utroque latere 3–4 angulo acutissimo adscendentibus gracillimis prominentibus, interdum fere trinervia, marginibus planis; flores in capitula terminalia longe pedunculata congesti arcte sessiles, capitulis densissime multifloris 7–8 mm. latis, basi brac-

teis 4 breviter connatis foliis conformibus fulcratis, bracteolis linearibus vel fere filiformibus calycem aequantibus; hypanthium lineari-clavatum glabrum 1.5–1.8 mm. longum ferrugineo-lineolatum versus basin longe attenuatum; calyx 4-partitus, laciniis lineari-attenuatis 1.4–1.7 mm. longis ferrugineo-lineolatis longe ciliatis erectis; corolla alba, tubo gracili extus glabro fere 3 mm. longo supra non dilatato, lobis 4 ovalibus obtusis fere 1 mm. longis obtusis extus prope apicem sparse hispidulis patentibus; antherae breves oblongae exsertae; stigma capitatum integrum vel brevissime bilobum; capsula oblonga vel anguste oblonga 2–2.5 mm. longa glabra vel tantum prope apicem pilosula tenuis pallida, plus minusve ferrugineo-lineolata.—Brazil: Coxipó da Ponte, Cuyabá, March, 1911, *F. C. Hoehne 2802* (Herb. Berol., type).

The generic position of the plant is somewhat uncertain. Its general aspect, if Rubiaceae of the tribe *Spermacoceae* may be said to have a characteristic aspect, suggests the genus *Mitracarpus*. The fruits are not fully mature, but there is no suggestion that they are circumscissile, and this character usually is discernible in plants of the genus *Mitracarpus* immediately after anthesis. The fruit has much thinner walls than is usual in *Borreria*, but it is difficult to see how the plant may be referred to any of the related genera. In *Borreria* it is unusual because of its abundant, often rufous pubescence, somewhat suggestive of that of *Borreria argentea* Cham., which, however, is a much larger and stouter plant.

Borreria valens, sp. nov.—Herba robusta, caulibus simplicibus 40 cm. longis et ultra crassis subteretibus fusco-ferrugineis glabris, internodiis elongatis sed vulgo foliis brevioribus; vagina stipularis 6–11 mm. longa ferruginea adpressa glabra, margine truncato setis numerosis glabris erectis 1–1.5 cm. longis onusto; folia breviter petiolata opposita subcoriacea, petiolo lato et marginato glabro usque ad 8 mm. longo; lamina lanceolato-oblonga vel anguste elliptico-oblonga 7–8.5 cm. longa 2–3.5 cm. lata acuta vel breviter acuminata basi acuta, supra in sicco griseo-viridis glabra vel prope marginem sparse scaberula, venis profunde impressis, subtus pallidior, ad venas aculeolato-scaberula, costa gracili elevata, nervis lateralibus utroque latere c. 6 angulo angustissimo adscendentibus leviter curvis vel fere rectis valde prominentibus, nervulis obsoletis; flores sessiles capitati, capitulis densissime multifloris terminalibus et ex axillis 1–2 superioribus, 1.5–1.8 cm. diam., capitulo terminali basi bracteis 4 foliis conformibus et aequilongis basi brevissime connatis fulcrata, bracteolis filiformibus calycem fere aequantibus sparse villosulis; hypanthium obovoideum 1.5 mm. longum prope apicem villosulum; calyx 4-partitus, laciniis 1–1.5 mm. longis erectis rigidiusculis lineari-subulatis viridibus sparse minute pilosulis; corolla extus glabra late infundibuliformis 2.5–3 mm. longa fere ad medium 4-loba, lobis ovato-triangularibus acutiusculis intus glabris; stamina exserta; stigma capitatum; capsula oblonga 2.5 mm. longa prope apicem sparse villosula tenuis, saepe

sparse ferrugineo-lineolata; semina matura non visa.—Brazil: Rio Claro, Minas Geraes, June, 1840, *Gardner 4744* (Herb. Kew., type).

I have not been able to find ripened seeds with either of the two sheets examined, but it is probable that they are transversely sulcate, and that the plant is related, therefore, to *Borreria laevis* (Lam.) Griseb., a common tropical weed, which it much resembles in general appearance. *B. laevis*, however, is usually a much smaller plant, with decidedly smaller flower heads, and with very short calyx lobes. Gardner states that *B. valens* is suffrutescent and sometimes three feet high.

Borreria clinopodioides, sp. nov.—Herbacea ut videtur perennis, caulibus gracilibus ramosis 40–50 cm. longis et ultra viridibus vel ochraceis, pilis laxis brevibus albidis patentibus vel interdum subreflexis pilosulis, internodiis foliis multo longioribus; stipulae in vaginam 2–3 mm. longam subtruncatam pallidam tenuem pilosulam connatae, vagina setis paucis vel numerosis c. 2 mm. longis erectis rigidis ferrugineis onusta; folia membranacea petiolata opposita, petiolo gracili 4–7 mm. longo pilosulo vel puberulo; lamina ovato-oblonga vel elliptico-oblonga 3–5.5 cm. longa 1–2 cm. lata acuta basin versus angustata, interdum abrupte contracta et breviter decurrens, supra laete viridis densiuscule scaberula vel glabrata, venis manifestis sed non elevatis, subtus paullo pallidior, scaberula et ad nervos breviter hispidula, costa gracili elevata, nervis lateralibus utroque latere c. 4 angulo acutissimo adscendentibus obliquis gracillimis prominulis; flores arcte sessiles in capitula terminalia densissima multiflora c. 1.5 cm. lata aggregati, quoque in axillis superioribus dense aggregati, capitulis bracteis 2–4 foliis conformibus et saepe aequilongis fulcratis, bracteis basi cupula stipulari flores fere aequante connexis; calyx 4-partitus, laciniis lineari-subulatis 1.5–2 mm. longis viridibus erectis glabris vel sparse hispidulis; corolla alba 2.2 mm. longa infundibuliformis extus glabra vel sparse puberula, lobis brevibus suberectis obtusis; antherae breviter exsertae oblongae; stylus apice brevissime bilobus; capsula 2–2.3 mm. longa oblongo-obovoidea prope basin pallida glabra, supra medium dense albo-villosula.—Brazil: Corumbá, State of Matto Grosso, growing in a swamp among grasses and Cyperaceae, July 21, 1903, *G. O. A. Malme* (Herb. Stockholm, type). Pernambuco, Gravatá, July, 1926, *Bento Pickel 1123* (Herb. Berol.).

The relationship of the plant seems to be clearly with *Borreria laevis* (Lam.) Griseb., which it much resembles in general appearance. In that common weedy species the flower heads are usually smaller, and the calyx lobes are much shorter, more or less united, and generally obtuse. The describing of new species in the already too confused genus *Borreria* is not to be commended, but this Brazilian plant is fairly easy of recognition, and it can not be referred satisfactorily to any of the numerous species already described.

Borreria liliifolia, sp. nov.—Herba erecta c. 50 cm. alta valida, caulibus crassis simplicibus obtuse quadrangulatis fusco-brunneis dense puberulis vel pilosulis, internodiis folia aequantibus vel longioribus; stipulae in vaginam 2–3 mm. longam dense puberulam connatae, vagina setis numerosis pilosulis usque ad 1 cm. longis ferrugineis onusta; folia coriacea rigida adscendentia opposita sessilia, fasciculis foliorum aequilongorum numerosorum in axillis insertis; lamina anguste lanceolato-oblonga vel oblonga 2–4 cm. longa 7–12 mm. lata acuta vel breviter acuminata, basi cuneato-angustata, utrinque densissime pilis brevibus patentibus albidis velutino-pilosula, supra in sicco ferruginea, venis subimpressis, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere 3–4 angulo angustissimo adscendentibus gracilibus prominulis; inflorescentia terminalis pedunculata basi bracteata cymoso-corymbosa c. 9 cm. longa et 15 cm. lata, dense multiflora, fere ubique trichotoma, ramis gracilibus rigidis rectis glabris vel ad angulos minute pilosulis, bracteis lanceolatis vel subulatis patentibus plerumque 2–3 mm. longis, floribus sessilibus vel brevissime pedicellatis; hypanthium turbinatum 1 mm. longum basi acutum glabrum; calyx 4-partitus, laciniis anguste triangularibus acutis vel acuminatis paullo inaequalibus 0.7–1 mm. longis erectis; corolla alba 2.5 mm. longa extus minute pruinoso-puberula ad medium 4-loba, lobis oblongo-ovatis obtusis intus dense albo-barbatis; stamina corolla breviora, antheris brevibus late oblongis; stylus corolla multo brevior apice clavatus et brevissime bilobus.—Brazil: Ypiranga, State of São Paulo, December 31, 1911, *Alex. Curt Brade 5266* (Herb. Stockholm, type).

Subgenus *Galianthe*. Related, probably, to *Borreria valerianoides* C. & S., but distinguished by the abundant pubescence of almost all parts. The leaves, too, are distinctive, the numerous leaves of the axillary fascicles being as large as the subtending ones, the stems thus appearing to be furnished with numerous whorls of subequal leaves.

Borreria luteovirens, sp. nov.—Herba erecta elata, ut videtur 1 m. alta vel ultra, radice valde incrassata, caulibus fere simplicibus supra sparse ramosis quadrangulatis lutescentibus glabris, angulis acutiusculis vel marginatis pilis brevibus rigidis retrorsum aculeolato-hispidulis, internodiis folia subaequantibus; stipulae in vaginam adpressam 2–4 mm. longam hispidulam connatae, vagina setis paucis vel numerosis usque ad 1.5 cm. longis glabratis onusta; folia subcoriacea rigida luteo-viridia sessilia opposita, fasciculis foliorum paullo reductorum in axillis saepe insertis; lamina lanceolato-oblonga vel anguste lanceolata 4–7 cm. longa 1–2 cm. lata longe sensimque acuminata, basi obtusa vel acutiuscula, supra dense scabra et aspera, venis profunde impressis, subtus pallidior, densiuscule hispidula et ad venas pilis aculeoliformibus crassiusculis instructa, costa gracili elevata, nervis lateralibus utroque latere c. 5 valde elevatis angulo angustissimo adscendentibus; inflorescentia terminalis cymoso-corymbosa basi foliaceo-bracteata 7–20 cm. longa et

aequilata, dense multiflora, inferne trichotoma, ramis dichotomis crassiusculis ad angulos aculeolato-hispidulis, floribus arcte sessilibus, bracteis lanceolatis vel subulatis plerumque 2–5 mm. longis; hypanthium turbinatum 1 mm. longum minute pruinoso-puberulum vel glabrum basi acutum; calyx 4-partitus, dentibus minutis interjectis, laciniis anguste triangulari-subulatis 2 mm. (vel usque ad 3 mm.) longis attenuatis erectis glabris; corolla alba 3–4 mm. longa in alabastro apice late obtusa, glabra vel prope apicem obscure puberula, ad medium 4-loba, lobis obtusis intus barbatis; stamina exserta, antheris oblongis 1 mm. longis; stylus breviter exsertus vel inclusus, stigmate clavato; capsula oblonga vel turbinato-oblonga 4–4.5 mm. longa glabra basi obtusa vel acutiuscula.—Brazil (State of Rio Grande do Sul): Cachoeira, in palude, January 12, 1902, *G. O. A. Malme 1060* (Herb. Stockholm, type). Cruz Alta, in palude, January 16, 1902, *Malme 1131* (Herb. Stockholm).

This species of the subgenus *Galianthe* is noteworthy for the yellowish green color of its dried foliage, its large capsules, and especially for its short, harsh pubescence, consisting in large part of recurved, prickle-like hairs.

The collector states that the plant is heterostylous, and the same condition prevails in other species of the genus. Schumann separated two groups of the subgenus *Galianthe* by the nature of the stigma, whether entire and capitate or clavate, or bifid. Probably this character is not of specific importance.

Borreria fastigiata (Griseb.) Schum. in Mart. Fl. Bras. 6^6: 68. 1888. *Galianthe fastigiata* Griseb. Symb. Fl. Argent. 157. 1879.

Brazil (State of Rio Grande do Sul): Cruz Alta, in campis, praesertim in graminosis, January 15, 1902, *Malme 1084* (Herb. Stockholm); January 16, 1902, *Malme* (Herb. Stockholm). Pinhal, prope Santa Maria, in campis, January 27, 1902, *Malme* (Herb. Stockholm).

Borreria Chodatiana, sp. nov. *B. thalictroides* Schum., var. *latifolia* Chod. & Hassl. Bull. Herb. Boiss. II. 4: 189. 1904.

It may be that this species differs from *B. thalictroides* only in the form of its leaves, but these are so distinctive in outline that at first glance one would never associate the two forms. In this difficult group of the genus *Borreria* it is desirable to simplify the work of identification as much as possible, and for that reason it seems preferable to accord specific rank to the broad-leaved plant. The following specimens of *B. Chodatiana* have been examined:

Paraguay: Sierra de Maracayú, *Hassler 5168* (F, type collection).—Brazil (State of Paraná): Tamanduá, in campo, *P. Dusén 10825* (Herb. Stockholm). Curityba, in campo, *Dusén 3474* (S), *13384* (S).

Borreria thalictroides Schum. in Mart. Fl. Bras. 6[6]: 71. 1888.

The species was based upon *Sello 217* and *4901*, collected somewhere in southern Brazil. A photograph and fragment of the former number (from the Berlin herbarium) are in the herbarium of Field Museum. Conspecific are the following Brazilian collections in the Stockholm herbarium: Paraná: Jaguariahyva, in campo, November, 1914, *Dusén 16033;* in campo, alt. 730 m., November, 1910, *Dusén 10364.*

In the typical form of the species the narrowly linear leaves are 1.5–2 cm. long. Among the Dusén Brazilian Rubiaceae there are three specimens of plants which have much longer and relatively even narrower leaves. The stems are leafy quite to the base of the inflorescence, while in the typical form the stems are naked above. I see no other differences between these forms, however, and the plant with long leaves may be distinguished as a variety:

Borreria thalictroides Schum., var. **longifolia,** var. nov.—A forma typica non nisi foliis multo longioribus plerumque 3–5 cm. longis rigidiusculis vix 1 mm. latis differt.—Brazil (State of Paraná): Serrinha, in campo, alt. 840 m., December 7, 1908, *P. Dusén 7303* (Stockholm herb., type); January 3, 1915, *Dusén 16269* (S). Villa Velha, in campo, 875 m., February 24, 1910, *Dusén 9446* (S).

Borreria leiophylla Schum. in Mart. Fl. Bras. 6[6]: 66. 1888.

Brazil: Cachoeira, Rio Grande do Sul, in campo aprico sat parce graminoso, February, 1893, *Malme 642, 644* (Herb. Stockholm).—Paraguay: Without locality, *Bettfreund 972* (Herb. Berol.). In altoplanitie Yeruti, *Hassler 5757* (Herb. Berol.).

Borreria centranthoides C. & S. Linnaea 3: 328. 1828.

Brazil: Quinta prope Rio Grande, State of Rio Grande do Sul, in fruticeto minus denso, loco arenoso, December, 1892, *Malme 402* (Herb. Stockholm).

Borreria equisetoides C. & S. Linnaea 3: 338. 1828.

The species seems to be rare, being represented in the herbarium of Field Museum only by a specimen of the original collection, obtained by Sello. The plant is a striking one, the fistulose stems, after the leaf blades have fallen, resembling closely those of the larger species of *Equisetum.* One additional collection has come to hand recently: Brazil: Fazenda Horticola (Schönwald), Rio Pardo, Rio Grande do Sul, alt. 70 m., January, 1927, *C. Jürgens 48* (Herb. Berol.). Growing in cultivated ground; plants up to 1.8 m. high; vernacular name, "canellão de viado." The capsules, which are not described in the *Flora Brasiliensis,* are oblong or elliptic-oblong,

2–2.5 mm. long, obtuse at the base, brownish fuscous, and glabrous, with the triangular or narrowly triangular, very short calyx segments persistent at the apex.

Borreria mitreoloides, sp. nov.—Herba erecta elata usque ad 1 m. alta et ultra ramosa, caulibus crassiusculis obtuse quadrangulati-glabris vel tantum prope nodos sparse scaberulis, internodiis plerums que foliis longioribus; stipulae in vaginam puberulam vel scaberulam 2.5–5 mm. longam connatae, vagina setis numerosis 5–15 mm. longis brunnescentibus scaberulis onusta; folia crasse membranacea breviter petiolata opposita, petiolo usque ad 1.5 cm. longo interdum fere nullo minute pilosulo vel glabrato; lamina magna lanceolato-oblonga vel ovato-lanceolata plerumque 6–10 cm. longa et 2–4 cm. lata, longe sensimque acuminata, basi acuta, supra laete viridis, inter venas scaberula vel fere glabra, venis impressis, subtus discolor, sparse scaberula, ad nervos vulgo sparse breviterque pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 6 obliquis subarcuatis prominentibus gracilibus; inflorescentia terminalis vel interdum quoque axillaris cymoso-corymbosa dense multiflora 4–7 cm. longa 6–15 cm. lata basi trichotoma, ramis repetite dichotomis dense multifloris, floribus sessilibus vel brevissime pedicellatis saepe plus minusve secundis, ramis crassiusculis parce minutissime pilosulis, bracteis in setas numerosas c. 1 mm. longas divisis; hypanthium obovoideum 0.8 mm. longum basi acutiusculum sparse minute albido-hirtellum; calyx 4-partitus, laciniis crassis erectis anguste triangularibus acutis fere glabris 0.8 mm. longis glaucescentibus; corolla extus glabra in alabastro apice obtusa fere 3 mm. longa ad medium 4-loba, laciniis late oblongis obtusis intus dense barbatis; stamina breviter exserta; stylus c. 3.5 mm. longus apice brevissime bilobus, lobis ellipticis obtusis; capsula late oblonga vel obovoidea 2–2.5 mm. longa basi obtusa sparse scaberula.—Brazil (State of Matto Grosso): Serra da Chapada, in silva sat clara, June 2, 1903, *G. O. A. Malme* (Herb. Stockholm, type). Ariçá prope Cuyabá, May 8, 1903, *Malme 3275* (Herb. Stockholm).

Evidently a relative of *B. valerianoides* C. & S., but the inflorescence in the latter is altogether different in arrangement. In that species, moreover, the leaves are much narrower and the calyx segments longer and narrower.

Relbunium ovale (R. & P.) Schum. in Mart. Fl. Bras. 6^6: 115. 1888. *Galium ovale* R. & P. Fl. Peruv. 1: 59. 1798. *Rubia ovalis* DC. Prodr. 4: 591. 1830. *Rubia diffusa* Pohl ex DC. Prodr. 4: 592. 1830. *Relbunium diffusum* Schum. in Mart. Fl. Bras. 6^6: 111. 1888. *Relbunium Bangii* Rusby, Bull. N. Y. Bot. Gard. 4: 374. 1907.

There is at hand a fragmentary specimen of what is probably type material of *Galium ovale* R. & P., received from the Botanical Garden of Berlin, and collected by Ruiz in the Huánuco region of Peru. It agrees perfectly with material which has been referred

heretofore to *Relbunium diffusum* (Pohl) Schum., and it is evident, therefore, that the latter must be reduced to synonymy.

Schumann in the *Flora Brasiliensis* maintained both as valid species, separating them by their different color when dried. The color seems to be a good distinguishing character when specimens are dried properly. The type material of *Galium ovale* is rather dark, rather than yellowish green, but I am convinced that this is merely because Ruiz's specimen discolored somewhat from improper drying.

The species is rather common in the Andes, and occurs also in Brazil. The following specimens have been examined:

Peru: Huánuco, *Ruiz.* Chaupichaca, Dept. Cuzco, *Weberbauer 7827.* Aina, Dept. Ayacucho, *Killip & Smith 22617.* Chorrillos, *Raimondi 6870* (fragm. ex herb. Berol.). Chanchamayo Valley, *Schunke 1541.*—Bolivia: Tipuani Valley, *Buchtien 7511.* Milluguaya, *Buchtien 766.* Yungas, *Bang 269, 518.* Coripati, *Bang 2154.* Sirupaya, *Buchtien 252.* Polopolo, *Buchtien 281;* in 1912, *Buchtien; Buchtien 4728.* Ixiamas, *R. S. Williams 276.*—Brazil: Curityba, Paraná, *Jänssan 182a* (herb. Stockholm). Serra do Mar, Paraná, *Dusén 14594* (Stockholm). Banhado, Paraná, *Jänssan 634a* (Stockholm). Serrinha, Paraná, *Dusén 3149* (Stockholm). Caldas, Minas Geraes, *Regnell I.173b* (Stockholm). Serra da Cantareira, São Paulo, *Brade 5261* (Stockholm). Peupa, São Paulo, *Brade 5268* (Stockholm). Poços de Caldas, Minas Geraes, *Campos Novaes 11368* (herb. Berol.).

Schumann in the *Flora Brasiliensis* cites *Regnell I.173b* as *Relbunium hypocarpium,* but the specimen seen by the writer is clearly not that species.

Relbunium Malmei, sp. nov.—Herba perennis ut videtur erecta vel decumbens, e basi ramosa, caulibus gracilibus 8–30 cm. longis pallidis lucidis acute tetragonis dense pilis elongatis albidis patentibus pilosis, internodiis elongatis plerumque foliis longioribus; folia quaternata crasse membranacea viridia in sicco fuscentia patentia sessilia vel subsessilia lineari-oblonga vel anguste lanceolato-oblonga, 6–12 mm. longa, 2–3 mm. lata, basi acuta, apicem versus sensim angustata, acuta, mucronata, utrinque dense pilis gracilibus patentibus longis pilosa, subtus paullo pallidior, 1-nervia; flores in axillis solitarii, pedicellis rectis pilosis 1–2 mm. longis; involucri phylla foliacea lineari-oblonga 3–4.5 mm. longa subaequalia foliis conformia dense pilosa baccam fere occultantia; corolla ut videtur alba glabra c. 1.5 mm. lata, lobis late ovato-triangularibus acutiusculis patentibus; bacca valde didyma 1.5 mm. longa et 2–2.5 mm. lata glabra laevis.—Brazil: Porto Alegre, Rio Grande do Sul, inter frutices, loco arenoso, September 17, 1892, *G. A. Malme 42* (Herb. Stockholm, type).—Uruguay: La Sierra, Pan de Azúcar, Dept. de Maldonado, October 13, 1907, *W. Herter 5215* (Herb. Berol.).

Apparently this is a relative of *Relbunium hirsutum* (R. & P.) Schum., of the Andes. That is a perennial with normally thicker and more rigid, shorter leaves and with smaller involucral bracts.

Relbunium paulense, sp. nov.—Herba ut videtur annua humilis pauciramosa 5–9 cm. alta suberecta, caulibus gracillimis rigidis pallidis glabris profunde 4-sulcatis, internodiis valde abbreviatis foliis multo brevioribus; folia quaternata crassa rigida patentia vel subreflexa densa anguste oblonga 4–5.5 mm. longa 1–1.8 mm. lata basi breviter angustata sessilia, apice acuta vel acuminata et mucronata, primo praesertim prope basin pilis paucis albis longis ciliata, aliter glabra, obscure 1-nervia, supra lucida, marginibus plus minusve revolutis; flores axillares solitarii, pedicellis 1–2 mm. longis rectis vel recurvis glabris; involucri phylla 4 subaequalia viridia oblongo-elliptica c. 1 mm. longa post anthesin paullo accrescentia acuta mucronata, pilis paucis pallidis longis ciliata; corolla fere 1 mm. longa glabra; bacca valde didyma glabra fere laevis c. 1.5 mm. longa.—Brazil: Campos da Bocaina, São Paulo, April 18, 1894, *Loefgren & Edwall 11362* (Herv. Comm. Geogr. de S. Paulo No. 2850; type in Herb. Berol.).

The species of *Relbunium* are for the most part well marked and often of wide distribution. Very few new ones have been named in recent years, because most of the material seems to be readily associable with those described long ago. The writer is somewhat loath to name the present plant, which is represented by complete although not very ample material; but it seems impossible to refer it satisfactorily to any of the species recorded from Brazil. Evidently it is related to *Relbunium ciliatum* (R. & P.) Hemsl., of the Andes, but in that the segments of the involucre are not long-ciliate. Another closely related species is *R. chaetophorum* (Griseb.) Schum., of Argentina, in which, however, the fruit is muriculate.

Relbunium humile (C. & S.) Schum. in Mart. Fl. Bras. 6^6: 105. 1888. *Galium humile* C. & S. Linnaea 3: 226. 1828.

The species was based upon *Sello 2979* from Brazil, the locality at which the collection was obtained being unknown. It is of interest to be able to record another collection of the species, which agrees perfectly with a fragment of the type in the herbarium of Field Museum, received from the Berlin Botanical Garden: Brazil: Porto Alegre, Rio Grande do Sul, *E. M. Reineck & Josef Czermak 573* (Herb. Berol.). The plant is easy to recognize because of its exceptionally delicate habit, and the pale green tint assumed by the dried foliage.

Relbunium hirtum (Lam.) Schum., var. **camporum** (Pohl), var. nov. *Galium camporum* Pohl ex DC. Prodr. 4: 604. 1830. *R.*

hirtum (Lam.) Schum., subsp. b. *camporum* (Pohl) Schum. in Mart. Fl. Bras. 6[6]: 108. 1888.

Relbunium hirtum (Lam.) Schum., var. **reflexum** (Pohl), var. nov. *Galium reflexum* Pohl ex DC. Prodr. 4: 604. 1830, in syn. *R. hirtum* (Lam.) Schum., subsp. c. *reflexum* (Pohl) Schum. in Mart. Fl. Bras. 6[6]: 109. 1888.

Galium obovatum HBK. Nov. Gen. & Sp. 3: 336. *pl. 277.* 1819.

The following additional specimens, recently examined, may be recorded from Bolivia: Prov. Chapare, Dept. Cochabamba, 2,400 m., a slender plant 30–60 cm. long, *Steinbach 9450.* Incachaca–Chusi, Prov. Chapare, 2,400 m., *Steinbach 9155.* Both specimens are in the Stockholm herbarium.

Galium Werdermannii, sp. nov.—Herba perennis dense caespitosa, caulibus numerosissimis gracillimis plerumque 3–7 cm. longis adscendentibus profunde 4-sulcatis glabris, internodiis brevissimis; folia quaternata lanceolato-oblonga vel oblongo-ovata 2.5–3.5 mm. longa 1–1.4 mm. lata crassa subrigida subpatentia vel adscendentia glabra 1-nervia saepe sublucida sessilia basi obtusa vel subangustata, apice acuta vel longiuscule sensim acuminata et mucronata, marginibus pallidis paullo incrassatis; flores axillares solitarii, pedicellis crassiusculis glabris 1–2 mm. longis; corolla non visa; bacca glabra didyma fere laevis c. 1.8 mm. longa et 2.2 mm. lata.—Chile: Prov. Cautín, Volcán Llaima, alt. 1,100 m., February, 1927, *E. Werdermann 1224* (U. S. Nat. Herb. No. 1,444,795, type; fragment in herb. Field Museum; duplicate in herb. Stockholm).

In general appearance as well as in details the plant is similar to *Galium Closianum* Briquet, but the latter has so much longer and narrower leaves that the two are not likely to be confused.

COMPOSITAE

Lagascea media (Blake), comb. nov. *Nocca media* Blake, Contr. U. S. Nat. Herb. 22: 596. 1924.

Lagascea pteropoda (Blake), comb. nov. *Nocca pteropoda* Blake, Contr. U. S. Nat. Herb. 22: 597. 1924.

Goldmanella sarmentosa Greenm. Bot. Gaz. 45: 198. 1908. *Goldmania sarmentosa* Greenm. Field Mus. Bot. 2: 271. 1907.

The type of the single species of the genus *Goldmanella* was collected at Canasayal, Campeche, Mexico. The species extends also to British Honduras, as evidenced by the following collection: Honey Camp, Orange Walk, September, 1928, *C. L. Lundell 17.*

UNIVERSITY OF ILLINOIS-URBANA
3 0112 018423829